

STATION MANAGEMENT PLAN

BACK BAY NATIONAL WILDLIFE REFUGE

VIRGINIA BEACH, VIRGINIA

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1. INTRODUCTION (Location, history, purposes)

Back Bay National Wildlife Refuge (Refuge) is located entirely within the City of Virginia Beach, Virginia (City). The Refuge was established by Executive Order No. 7907 (Appendix 1) on June 6, 1938 "...as a refuge and breeding ground for migratory birds and other wildlife." Another of the Refuge's primary purposes (for those lands acquired under the Migratory Bird Conservation Act) is "...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." In 1939, an additional 4,600 acres of open bay water within the Refuge boundary were closed to the taking of migratory birds by Presidential Proclamation. Figure 1 shows the general vicinity of the Refuge, the original 1938 boundary, and the 1990 expanded boundary.

The barrier beach portion of the Refuge extends 4.2 miles along the Atlantic shoreline and is bordered on the north by the City's Little Island Recreational Area, and on the south, by False Cape State Park (State Park). The North Carolina line is approximately 10 miles from the northern boundary of the Refuge.

Management objectives have been developed and expanded through the years to provide for a broad spectrum of wildlife, with special emphasis on waterfowl, shorebirds, and threatened and endangered species. The Refuge also provides a program of wildlife-oriented recreation and environmental education for the visiting public that is consistent with Refuge objectives.

The following is excerpted from the 1972 Refuge Master Plan:

Before the Back Bay National Wildlife Refuge was acquired by the Federal government, the barrier beach was generally quite flat and sandy. The saline soils were unproductive. Periodically, northeast gales and hurricanes pushed large quantities of sea water across these flat beaches and into Back Bay. During the early 1930's, the Civilian Conservation Corps built brush fences and planted cane and bulrush to catch the blowing sand, thus building and stabilizing sand dunes. Later on, sand fences of wood were built, and many of the dunes were planted to beach grass. These dunes protected the bayside flats and allowed a marsh to be established.

Historically, the Back Bay area has been known for its concentrations of wintering waterfowl and shore birds, along with numerous furbearers, especially muskrats. Although cattle were grazed on the barren beaches and on the very narrow strip of marsh adjacent to the bay, hunting and fishing were the principal land uses prior to the establishment of the Refuge. Hunting clubs were numerous, and the Ragged Island Club and the Princess Anne Club comprised the land that is now the Refuge.

Since Refuge establishment, management activities have been geared towards providing habitat for migratory birds - specifically waterfowl. Early management focused on development of freshwater marshes on the barrier spit, to compliment the brackish marsh and Submerged Aquatic Vegetation (SAV) in Back Bay. The main techniques for freshwater marsh development included construction of "ring dikes" in the 1950's and, later, the construction of the East, West and cross-dikes. Through these construction activities, approximately 650 acres of primarily unvegetated wash flats were converted to freshwater impoundments by 1970. These areas were then managed for snow geese and other waterfowl, primarily through agricultural practices such as: plowing, discing, seeding and burning. Water level manipulation was also used to enhance the attractiveness of the area to waterfowl.

With the increase in personal leisure time in the years following World War II, public use of the Refuge began to increase. The primary focus of this use was the Refuge beach and dunes. Visitors in four-wheel-drive vehicles came in ever-increasing numbers, resulting in an estimated 348,000 visits by 1971. The Service recognized the damage caused by off-road-vehicle activity and, on February 28, 1973, published the first of many annual rulemakings which limited beach and vehicular use. These proposed limits resulted in major controversy and a lawsuit against the Service. The overall effects on Refuge management activities were: 1) significant expenditures of staff time and dollars on controlling public use and 2) a de-emphasis of traditional wildlife management activities. In fact, by the mid-1970's over 50% of the annual Refuge staff effort was expended in controlling access and administration of the Motor Vehicle Access Permit Program (MVAPP).

These efforts gradually began to pay off and, by the mid-1980's, as the vehicle access situation was brought under control, the Refuge staff began to emphasize more traditional Refuge management activities. As the 1990's begin, only an estimated 15% of Refuge staff effort is directed toward the necessary administration of the MVAPP. Rules and Regulations governing Public Access, Use, and Recreation on the Refuge, as published in the Federal Register on September 23, 1987, are attached (Appendix 2). The "Background" section provides an excellent overview of the history of the MVAPP; the special regulations currently in effect are included under Part 26.

In 1990, after nearly two years of planning and public input, the first boundary expansion in Refuge history was approved. The expansion added approximately 6,340 acres of marsh, wooded and shrub swamp, agricultural lands and critical edge habitats to the Refuge boundary (Figure 3). Initial acquisition began in 1990 with the purchase of 436 acres north and west of Back Bay.

2. ENVIRONMENT

A. Physical Resources

1) Climate

The climate of Virginia Beach is modified continental with mild winters and hot, humid summers. The average temperature in winter is 42 degrees F and the average daily minimum temperature is 33 degrees F. In summer, the average temperature is 77 degrees F, and the average daily maximum temperature is 85 degrees F. Annual precipitation averages 45 inches. Of this total, 25 inches, or 56 percent, usually falls in April through September. The growing season is 237 frost-free days, the longest growing season in Virginia. The average seasonal snowfall is 7.2 inches. The average relative humidity in mid-afternoon is approximately 58 percent. Humidity is higher at night, and the average at dawn is about 78 percent.

The prevailing wind is from the southwest. Average windspeed is highest in March at 10.6 miles per hour. The area is frequently subject to storms out of the northeast during fall, winter, and spring. These storms can produce localized flooding and severe thunderstorms whose strong winds and heavy rains sometimes result in localized flooding. Although Virginia Beach is north of the track usually followed by hurricanes and tropical storms, the city has been struck infrequently by hurricanes.

2) Air and Noise Quality

The air quality for the city of Virginia Beach is rated high. Due to the location of Oceana Naval Air Station, noise levels can be excessively high in certain sections of the city.

3) Geology

Following is a geologic description of the city of Virginia Beach and Back Bay area as described by Mann (1984):

Virginia Beach lies within the Atlantic Coastal Plain Physiographic Province. The physiography of the area is typical of that of most of the Atlantic seaboard and consists of gently sloping terrace plains extending seaward from the base of the Appalachian Mountains.

The entire wedge of coastal plain sediments is composed of stream-carried sands and clays deposited along a shoreline and nearshore environment not dissimilar to that which presently exists in the area. These include beach and dune environments, salt marshes, stream channels, and flood deposits. The source of the sands and clays was primarily the down wasting of the eastern seaboard continental land mass. Six stratigraphic units compose the 4,000 feet of unconsolidated sediments of the Coastal Plain in the Virginia Beach and Back Bay region. The

uppermost unit, the Columbia Group, is characterized by light colored clays, silts, and sands of recent and Pleistocene Age (2.5 mybp to present). These deposits range between 20 and 50 feet thick and include recent dune, beach, and river sediments.

4) Topography and Soils

The flatness of the lands surrounding Back Bay is the central topographic characteristic of the watershed. Pungo Ridge, along which Princess Anne Road runs, has the highest land elevations on the west side of the Bay, reaching 15 to 20 feet above mean sea level (msl) at several points. On the eastern boundary of the Bay, the sand dunes of False Cape present a second line of higher elevation, reaching 50 feet above msl or greater at a number of locations and 64 feet at the highest.

In between these parallel ridges on the Pungo side lie the better drained uplands, falling away from the highest elevations to an imaginary line that is generally about five feet above msl. This lower elevation is the upper edge of the flood plain. This is where the principal marshes and swamps of the Bay's edges are found; however, throughout the flood plain at its higher elevations and where the soils are inclined to dry out more readily, crops are farmed. Because of the universal flatness and low elevation of the land, flooding from high wind tides is a frequent problem for the farmers, particularly below the three - or four-foot contour levels.

The Soil Conservation Service has mapped the soils within the city of Virginia Beach. The major associations which are found within the Refuge include Acredale-Tomotley-Nimmo, Back Bay-Nawney, and Newhan-Duckston-Corolla.

5) Surface Water Resources and Quality

Greater Back Bay is divided by its natural configuration of islands into five sub-Bays: North Bay, Shipps Bay, Redhead Bay, Sand Bay, and Back Bay proper. Numerous channels, narrows, and guts link the sub-Bays together as does cross-wetland drainage. The whole of Back Bay has a surface area of about 39 square miles. The surrounding uplands and wetlands cover an additional 64 square miles accounting for approximately 104 square miles of watershed land and water resources. The 64 square miles of land which drain into the Bay control to a large degree the quality of water in the Bay. Major drainage creeks that feed into the Bay from the surrounding watershed include Hell Point Creek and Muddy Creek at the northwest corner of North Bay, Beggars Bridge Creek at Shipps Bay, Nanney's Creek between Redhead Bay and Back Bay proper, and Devil Creek, the smallest of the creeks near the center of Back Bay proper. Surrounding lands are also drained by numerous drainage ditches that feed into the creeks or directly into the Bay.

Most of the Bay is quite shallow with an average depth of less than five feet. The Bay includes fresh to sometimes brackish water. It has one major outlet to the south into Currituck Sound. Water level fluctuations are caused primarily by the wind. Summer winds generally blow from the southwest, while in the winter, winds are more northeasterly. Strong southerly winds of several days duration can force water from Currituck Sound into Back Bay. Wind setups of three to four feet have been estimated in the northern part of the Bay. Strong northerly or northeasterly winds, over several days, result in the dewatering of northern and eastern coves in the Bay.

Back Bay supported a more saline environment when it was previously influenced by lunar tides. However, in 1850, when Currituck Inlet was closed by natural processes, this lunar influence was greatly diminished. Without the regular influence of ocean water, fresh water influence has predominated to create a fresh-brackish system. Only occasional storm overwash has brought in masses of salt water.

The brackish Bay waters were also formerly influenced by a salt water pumping station located one-half mile north of the Refuge boundary. The station was operated by the City of Virginia Beach for the purpose of pumping ocean waters into the Bay. Salinity near the pumping station formerly averaged 10 to 15 percent of sea water.

Historically, throughout North Bay and Shipps Bay, average salinity varied between nine and ten percent of sea water, while in Redhead Bay and Back Bay it ranged from 5.5 to 6.5 percent of sea water. Salinities of seven to eight percent of sea water formerly occurred in waters in the channels connecting Shipps Bay with Redhead and Back Bays (Howard, et al. 1976).

Major storms such as the Ash Wednesday Storm of 1962 can cause salinities to rise as high as 75% that of sea water. Salinities this high may have lethal effects in fish and aquatic plants that live in Back Bay. This will become more important as salinities decrease over the recent past and more freshwater-tolerant plants become established in Back Bay.

The salt water theory has been considered a solution to the problems of turbidity in Back Bay. Several studies have seriously questioned this hypothesis. Mann (1984) stated:

"Water clarity is determined by water color (clear, brown), suspended soil particles, and phytoplankton growth. Back Bay water quality has been an area of concern for many years. The lack of vegetation in the Bay is often attributed to the lack of water clarity. The decision to introduce salt water to the Bay in 1964 was predicated on anticipated improvements in water clarity which in turn would result in increased growth of vascular vegetation".

"Considerable statistical analysis conducted on the salinity and turbidity data revealed no correlation between the two parameters. Even during August, 1983, when salinity in North Bay was the highest it has ever been, no correlation was found. The lack of correlation is not surprising since a large change in turbidity can be observed as daily wind and wave conditions in the Bay change. Additionally, when clarity was greatest from 1975 through 1978, the salt water pump was inoperative for a large portion of the time and average Bay salinity ranged from 1.3% SS to 7.4% SS".

Turbidity fluctuations go a long way in explaining the aquatic vegetation changes that have occurred in Back Bay. Until the introduction of Eurasian milfoil in 1964, increased turbidity levels (probably from increased runoff due to intensified agricultural practices) caused the native SAV's to gradually die off. The spread of the milfoil probably lowered the turbidity levels in certain areas, thus allowing the re-establishment of other SAV's that were noticed in the 1970's. At the present time, Virginia Beach continues to expand and turbidity has increased to the point where, during the past several years, even the Eurasian milfoil beds have nearly disappeared.

The water quality in Back Bay has begun to deteriorate from a number of additional factors as well. Quality has been, at times, fair to poor at the mouths of the tributaries and within several of the watershed creeks that have been subject to urban and/or agricultural runoff. Pollutant laden urban runoff, which is channeled into Back Bay from the surrounding watershed, adversely affects the water quality of North Bay and its tributaries. Future impacts of an urbanizing watershed could be severe. Agricultural impacts may include: excessively high concentrations of nitrogen and phosphorous in Back Bay and its tributaries from fertilizer applications, releases of liquid waste from hog waste holding lagoons, pesticides, and sediments from erodible fields which enter the Bay and creeks from the extensive drainage ditching system.

Water quality in the Bay may also be impacted by the large number of septic systems that are located on the area. Some of these systems are built in poorly drained soils and may either fail to function properly or fail completely. Golf courses may also contribute to water quality problems.

Groundwater Resources and Quality

Mann (1984) identifies two primary freshwater aquifers in the Back Bay watershed that consist of the confined aquifer within the Yorktown formation and the shallower, unconfined aquifer within the overlying Columbia deposits. All municipal wells are generally within the confined aquifer, while many domestic wells are within the unconfined aquifer.

All major groundwater quality criteria, with minor exceptions, have been found to be within applicable concentration standards. Salt water intrusion has been found in deeper groundwater supplies. A small increase in overall nitrate concentrations in groundwater is evident and suggests the impact of agricultural activities. However, for the most part, nitrate concentrations in the shallow regional aquifer are low in comparison with other agricultural areas. In general, groundwater quality in the Back Bay watershed is good.

B. Biological Resources

1. Vegetation and Habitat

a) General

As of January, 1991 the Refuge consisted of about 5,000 acres within an approved acquisition boundary of nearly 11,000 acres, not including proclamation waters. The original 1938 purchase consists of approximately 4,600 acres of beach, dunes, woodland, and marsh. In 1990, the first lands acquired since 1938 were purchased with funds from the Migratory Bird Conservation Account. This initial purchase within the expanded boundary added 436 acres of marsh, scrub/shrub swamp, farm fields, and woodlands to the Refuge north and west of Back Bay.

The Refuge oceanfront and beach is one of the most dynamic along the Atlantic coast. The slope of the beach may change radically within one tide cycle. The beach varies in width from 100 to 250 feet at low tide and, including the dunes which reach an elevation of up to 30 feet, comprises approximately 800 acres of Refuge habitat. Marshland comprises about 3,850 acres or 77 percent of the Refuge. This wetland acreage includes approximately 1,000 acres in eight impoundments on the barrier spit. Scattered woodland, consisting primarily of loblolly pine with some live oak, red maple, persimmon, and sweetgum, totals about 200 acres. The tracts acquired in 1990 included 40 acres of agricultural land, 50 acres of scrub/shrub swamp and seven acres of upland. Emergent marshes comprised the remainder of the 1990 additions. The remaining upland area includes about 55 acres of wheat and hay (Long Island) managed as goose browse.

Historic records show that the barrier beach system was severely overgrazed in the 19th century resulting in the mobilization of large sand sheets and moving dunes. The cutting and burning of forested areas probably preceded the overgrazing. Forested areas have been culled many times in the past, undoubtedly changing the vegetative composition of the area.

Natural processes have also served to further shape the vegetative distribution and diversity on the barrier. Site-specific factors such as depth to water table, amount of salt spray, substrate stability, water salinity, and the effects of periodic flooding have significantly contributed to the vegetative pattern which now exists.

The vegetative communities of the refuge are divided into the following groups:

b. Beach/Dune Grasslands

The majority of plants found along the beach are located between the wrack line and the toe of the dune. The wrack line is a zone of woody debris at the high tide swash line and provides a substrate for vegetation establishment. Pioneer species found in this zone are sea rocket (Cakile edentula) and American beach grass (Ammonophila breviliqulata). The relatively high, continuous dune line that is characteristic of the northern Outer Banks is colonized by a number of grasses, primarily American beach grass and sea oats (Uniola paniculata). The natural ranges of these two grasses overlap along this portion of the coast. Sea oats, which grow in less dense stands, reach their northern limits on the Virginia barrier islands, while American beach grass reaches its southern limits on the Outer Banks of North Carolina. The southern limit of beach grass has been artificially extended by plantings that are part of dune building and stabilization research.

Both grasses develop extensive horizontal rhizomes with rootlets that capture moisture from rainfall. These rhizomes further serve to bind sand and stabilize sand surfaces. Beach grass and sea oats are adapted to tolerate stresses such as salt spray, overwash, sand blast, and drought, all of which are characteristic of the foredune area. However, both species are extremely vulnerable to mechanical disturbance of the soils.

In stabilized areas of the dunes, conditions are more favorable, and the following species are noted: sea rocket, evening primrose (Oenothera humifusa), seaside goldenrod (Solidago sempervirens), beach pea (Strophostyles helvola), sandspurs (Cenchrus tribuloides), daisy fleabane (Erigeron canadensis), and spurge (Euphorbia polygonifolia).

Stabilized and protected interdunal depressions develop a high diversity of plant species. At the Refuge and the adjacent False Cape State Park, 129 species of plants have been identified. Distribution, abundance, and succession of these species are controlled by several abiotic and biotic factors including soil moisture, interspecific competition, salt spray, migratory waterfowl activity, and feral hog and trespass horse disturbance (Tyndall 1977).

Dominant species in these depressions include salt meadow cordgrass (Spartina patens), needlerushes (Juncus spp.), three-Square bulrush (Scirpus americanus), and broom sedge (Andropogon virginicus). Common herbaceous species include water pennywort, (Centella asiatica) and purslane (Ludwigia palustris).

Woody vegetation on the perimeter of these depressions includes groundsel-tree (Baccharis halimifolia), wax myrtle (Myrica cerifera), bayberry (Myrica pensylvanica), black cherry (Prunus serotina), and live oak (Quercus virginiana). Availability of fresh water, diversity of seed producing and food plants, as well as vegetative cover, provide habitat for many species of wildlife.

c) Barrier Spit Woodlands and Shrublands

A shrub thicket occurs throughout the length of the Refuge where sites are naturally or artificially protected from oceanic influence. The buffering action provided by the fore and mid dunes is essential for the establishment of this arborescent zone. When salt spray effects are the greatest, these species form low, spreading cover with areas of maritime grassland in-between. Away from the ocean in shrub dominated areas, the growth pattern is taller and denser, forming a closed canopy.

The dominant shrubs of the shrub thicket community are: blueberry (Vaccinium sp.), American holly (Ilex opaca), yaupon (Ilex vomitoria), hudsonia (Hudsonia tomentosa), wax myrtle, red cedar (Juniperus virginiana), live oak, and groundsel-tree. Woody vines are also found in this community including greenbrier (Smilax bonanox), Virginia creeper (Parthenocissus quinquefolia), grape (Vitis spp.), and poison ivy (Rhus radicans). The understory of the shrub thicket community is sparse and consists mostly of seedlings of the above mentioned shrubs and vines.

Cleared edges, roadways, and rights-of-way have been invaded by shrub thicket stands. This has created large areas of "edge space", and ecotonal habitat that many species of wildlife inhabit.

Shrub thickets merge gradually into forestland. The Refuge has only a small portion of forest in the Green Hills area, adjacent to Barbour's Hill. The forest on False Cape State Park is located along the back dunes of the barrier system in areas not directly affected by ocean storms.

Forests located close to the ocean are low, generally reaching heights of less than 20 feet, and they exhibit dense lateral branching. This lack of apical dominance is caused by wind and salt spray. Dominant species include live oak, red cedar,

and laurel oak (Quercus laurifolia). Understory shrub species include American holly, black cherry, poison ivy, Virginia creeper, and grape.

d) Marshes

Slightly brackish marshes cover essentially all of the low-lying Bay shoreline areas of the barrier beach, most of the islands within the Bay, and the lower areas in the northerly and westerly portions of the Refuge.

The impoundments and marsh flats on the spit are dominated by plants such as cattail (Typha spp.), black needlerush (Juncus roemerianus), water hyssop (Bacopa spp.), spike rushes (Eleocharis spp.), salt meadow cordgrass, beggar tick (Bidens spp.), and three-square. A fragment of forest exists on the higher sand mounds in the marsh flats and impoundments. Dominant plant species include wax myrtle, live oak, red maple (Acer rubrum), loblolly pine (Pinus taeda), and greenbrier.

Most of the marshes of Back Bay are dominated by black needlerush. Common associates include cattails, arrowhead (Sagittaria spp.), seashore mallow (Kosteletzkya virginica), smartweeds (Polygonum spp.), marsh fern (Dryopteris thelypteris), and various grasses and sedges.

Considerable variation occurs in the composition and diversity of these marsh communities, depending upon such factors as successional stage, degree of disturbance, salinity, water table level, and local drainage pattern. In many places, marshes are composed of nearly pure stands of black needlerush. In areas that receive freshwater runoff, cattails are dominant. Big cordgrass (Spartina cynosuroides) often covers the outer fringes of marshes adjacent to open water.

Younger successional stages and more open areas are often dominated by three-square bulrush, saltmarsh bulrush (Scirpus robustus), softstem bulrush (S. validus), smartweeds and panic grasses (Panicum spp.). These areas provide excellent waterfowl food, but are apparently replaced in later successional stages by cattails or black needlerush. Areas which have been disturbed often come back in wild millet (Echinochloa crusgalli), reed grass (Phragmites australis), panic grasses, and three-square. Species of rooted aquatic plants in Back Bay include Eurasian water milfoil (Myriophyllum spicatum), sago pondweed (Potamogeton pectinatus), and najas (Najas guadalupensis).

e) Forested Swamps

Brackish marshes gradually grade into forested swamp habitats. Swamps occur primarily adjacent to riverine systems including Nanney's Creek, Beggars Bridge Creek, Muddy Creek, and Hell Point Creek. Dominant overstory species include red maple, bald cypress (Taxodium distichum), sweet gum (Liquidambar

styraciflua), black gum (Nyssa sylvatica), and black willow (Salix nigra). Understory species typically consist of false nettle (Boehmeria cylindrica), royal fern (Osmunda regalis), greenbrier, poison ivy, and immature canopy species.

f) Lowland Forests and Agricultural Fields

Brackish marshes and forested swamp habitats gradually grade into low-lying, poorly drained agricultural fields and forests. These habitats are primarily below five feet msl. Primary agricultural crops consist of soybeans, corn, and wheat. Secondary crops include a variety of vegetables. Lowland forests primarily occur as small isolated stands, many of which are surrounded by agricultural lands. These forest stands are typically unsuitable for agriculture. Overstory species typically consist of loblolly pine, sweet gum, laurel oak, white oak (Quercus alba), tulip tree (Liriodendron tulipifera), southern magnolia (Magnolia grandiflora), black cherry, and hickory (Carya spp.). Understory species include flowering dogweed (Cornus florida), wax myrtle, greenbrier, Virginia creeper, highbrush blueberry (Vaccinium corymbosum), poison ivy, and immature canopy species.

2) Wildlife

Although the Back Bay area is noted for its formerly large wintering waterfowl populations and its once significant sport fishery, it does exhibit a diversity of other wildlife. Following is a general discussion of the wildlife of the Refuge:

a) Waterfowl

Back bay and the associated marshes and swamps provide important resting and migration habitat for a diverse waterfowl population. Species include Canada geese (Branta canadensis), greater snow geese (Chen caerulescens), tundra swans (Cygnus columbianus), and 17 species of ducks. Waterfowl generally begin arriving on Back Bay in late August through September. Diversity peaks in October with over a dozen species typically being present at any one time. Peak populations generally occur in November and December and waterfowl disperse in February and March.

Notable dabbling duck species include Northern pintail (Anas acuta), mallards (A. platyrhynchos), black ducks (A. rubripes), gadwall (A. strepera), and wood ducks (Aix sponsa). Mallards, black ducks, wood ducks, and gadwall also breed on the Refuge in limited numbers. Diving duck species observed using the Bay have decreased drastically in both diversity and abundance. The vast rafts of canvasbacks (Aythya valisineria) recorded in the Bay as late as the mid-1970's no longer occur. However, small numbers of bufflehead (Bucephala albeola), common goldeneye (B. clangula), ruddy ducks (Oxyura jamaicensis), lesser scaup (Aythya affinis), redheads (A. americana), ring-

necked ducks (A. collaris), common merganser (Mergus merganser), and hooded merganser (Lophodytes cucullatus) still winter on the Bay.

Table 1 lists peak waterfowl populations on the Refuge between 1986 and 1990.

Table 1. Peak Waterfowl Populations for Back Bay NWR 1986 -1990

<u>Wintering Species</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
Geese (Snow and Canada)	8,600	12,750	25,1042	7,703	8,383
Ducks	2,249	4,262	2,099	1,855	2,171
Tundra Swans	512	500	354	554	211

b) Additional Species

Since establishment in 1938, some 259 bird species have been observed on the Refuge. Most of the species are migratory and, therefore, may be present only a portion of the year. Besides the waterfowl mentioned previously, these birds include a variety of shorebirds, marsh and wading birds, water birds, raptors, and passerine birds. Notable species include: great egret (Casmerodius albus), snowy egret (Egretta thula), great blue heron (Ardea herodias), marsh hawk (Circus cyaneus), osprey (Pandion haliaetus), peregrine falcon (Falco peregrinus), red-tailed hawk (Buteo jamaicensis), and great horned owl (Bubo virginianus).

c) Mammals

Besides wintering a diversity of migratory birds, the marshes, swamps, and upland fringe areas of the Refuge provide habitat for many mammals including white-tailed deer (Odocoileus virginianus), raccoon (Procyon lotor), gray fox (Urocyon cinereoargenteus), otter (Lutra canadensis), mink (Mustela vison), red fox (Vulpes fulva) muskrat (Ondatra zibethicus), nutria (Myocastor coypus), and marsh rabbit (Sylvilagus palustris).

d) Fishery Resources

At one time, the freshwater fishery in Back Bay and Currituck sound was called "one of the best in the country", particularly for largemouth bass. Today, however, bass fishing has been severely limited due to the decline of SAV's in the Bay.

Other important species of sport fish in the Bay are striped bass, black crappie, chain pickerel, flounder, bluegill, pumpkinseed, and bluespotted sunfish. In the more northern Bays, Atlantic needlefish, silversides, white perch, and pumpkinseed are important sport catches. On the ocean side, surf fishermen catch croakers, spot, striped bass, weakfish, kingfish, bluefish, and flounder.

Commercial fish catches in Back Bay include white perch, catfish, carp, shad, herring, and eels. White perch are taken in gill nets in deep open parts of the Bay. Other species are caught in haul seines and set nets. Croakers, spot, weakfish, and bluefish are taken commercially by haul seine and gill nets from the ocean surf. The best commercial catches are made in the spring and fall. Croakers are caught from mid-April through August, and spot are caught from mid-April through November. Striped bass and bluefish are taken from October through February, while shad are caught from February through April.

e) Invertebrates

The primary food of fishes in Back bay are various benthic invertebrates, including numerous kinds of insect larvae and small crustaceans. The most commonly collected invertebrates include the midges (Chironomidae) and scuds (Amphipoda). Other common macrobenthic invertebrates in Back Bay include at least six orders of insects which have aquatic larvae: earthworms (Oligochaeta), snails (Gastropoda), crustaceans (Isopoda and Decapoda), and clams (Pelecypoda).

Back Bay offers a wide variety of habitats to aquatic macrobenthos and fish. The shore zone, with thick deposits of organic detritus, occasional sand flats, patches of emergent, submerged and floating vegetation, and even areas of the open water, provides excellent habitat for a variety of organisms. Within each habitat, different organisms occupy specific levels in the food chain. Some, including the mayflies (Ephemeroptera), function primarily as herbivores and feed on the microscopic plants present. Others, such as the damselflies and dragonflies (Odonata), are predators of other aquatic insects. Still other organisms like the scuds (Amphipoda) are scavengers and utilize the decaying material of the bottom as an energy source. In turn, many of these organisms serve as important food items for fish as well as waterfowl and other waterbirds.

C. Socioeconomic Resources

1. Land Use

The Refuge area is relatively rural and, with the exception of the Sandbridge community, is developed primarily in agriculture. The area has retained this basically rural, agricultural character for more than 300 years.

The majority of the land within the expanded Refuge boundary exists in a natural state with approximately 60% of the land consisting of brackish marsh and forested swamp. Lowland forests exist on soils that are insufficient to support farming. Remaining lands exist as agricultural fields. Farm houses and associated buildings, residential development, and limited commercial areas are scattered throughout the area.

Lands within and around the Refuge fall within several zoning categories. Zoning south of Sandbridge Road is primarily agriculture and preservation. A strip north of Sandbridge Road is zoned business, while the remainder is zoned for residential uses of varying intensities. In the community of Sandbridge, the zoning is residential. Sandbridge has been developed for high density resort homes over the past two decades. It is the primary densely settled portion adjacent to the Refuge boundary. Much of Sandbridge is separated from Back Bay by a series of finger canals and marsh.

Despite the overall rural, undeveloped character of the area, the fact that it lies in one of the fastest growing metropolitan areas in the nation is a challenge to its rural character and current land use pattern. Development in much of the Refuge acquisition area north and west of Back Bay has been curtailed by establishment of the "Green Line" and short-term overlay zoning laws. However, as City services catch up with development north of this line, and pro-development interests retain control of City government, the potential for large-scale housing development becomes feasible. Demand for housing in the City continues to increase and the trend of the area is towards increased development. In fact, under the present Ag-2 zoning (one-acre lots), small subdivisions have already become established.

2. Economy

The Virginia Beach Planning Department (1982) reports that white collar workers are the largest component of adult heads of household in the city (36%), followed by blue collar (22%), military (18%), other workers (5%), and retired or not employed (19%). Workers in the area are employed by the military, in retail and wholesale trades and services, in manufacturing, on the docks, in agriculture, and in higher education. The tourism and recreation-related industries make a significant contribution to the economy of Virginia Beach. During 1986, 2 2/2 million visitors generated over \$431 million in revenue.

The economy of the Refuge area is primarily based on agriculture, with the exception of Sandbridge. Agriculture is one of the major segments of the City's economic base and has been by virtue of its long history and tradition in Virginia Beach. Agricultural activities are concentrated on the raising of hogs and the growing of grains, principally winter wheat, field corn, and soy beans. More recently, several local farmers have converted to farming organically grown fruits and vegetables for private and commercial use. Sandbridge is a residential/recreational community of about 800 homes. During the summer months, over one-half of the dwelling units are occupied by non-resident property owners or short-term tenants. Income is derived in Sandbridge from rental of recreational properties or from sale of goods and services. Businesses in Sandbridge include a market, a

convenience store, two restaurants, a gift shop, a gasoline station, a bait and tackle shop, and realty companies. Business activity in this area is currently expanding.

3. Social

The City of Virginia Beach is one of the fastest growing coastal cities of the United States. Because of the high quality and diversity of its environmental resources, the City has long attracted residents and businesses. Its proximity to the naval and maritime facilities of Portsmouth, Norfolk, and Newport News, and specifically as the location of the Oceana Naval Air Station, Camp Pendleton State Military Reservation, Little Creek Naval Amphibious Base, Fort Story Army Post, and other military installations have made it an attractive location for military and civilian personnel and their families.

The City has undergone a period of phenomenal growth since incorporation in 1962. From 1960 to 1980, the population for all of Virginia Beach nearly tripled from 85,218 to 262,199. The 1990 Census counted a population of 393,069, a ten-year increase of 50%. Despite the phenomenal growth of the City's population from 1960 to 1990, the population of the area surrounding the Refuge has experienced only modest growth during the same time period. With the exception of Sandbridge, the area supports a primarily rural population. However, the semi-rural atmosphere is attracting residents. In addition, once growth becomes saturated in the northern portion of the City, the Refuge area will absorb a greater percentage of the City's overall growth.

The City's population is relatively young with school-aged children (ages 5-19 years) comprising 23% of the population; 63% is represented by the 20-64 age group, and that segment of the population over 65 comprises 6%. Educational levels are high in Virginia Beach with 87% of all adults being high school graduates and 53% with some college education.

4. Historical and Archaeological Resources

While few systematic archaeological surveys have been performed in the vicinity of Back Bay National Wildlife Refuge, a number of prehistoric archaeological sites exist within the present Refuge bounds, and the probability of further sites within unacquired Refuge tracts is very high, particularly on terrace edges bordering the wetlands.

Documented historic settlement of the Ashville Bridge Creek and Nanny's Creek area dates from the second half of the 17th century onward, with several plantations occupying the mainland uplands along the edge of the Refuge boundary. In the early 18th century, at least some of these had landings at the present wetland edge, and subsidiary plantations on islands within the present Back Bay Refuge. The probability

for presence of standing buildings from these plantations or archaeological remains of vanished plantations is high within this area. The Refuge does not have any historical or archeological sites listed on the National Register of Historic Places or the Virginia Landmarks Register; however, National listing is pending on a 19th century farmhouse acquired by the Refuge in 1990.

5. Recreation

Because of its scenic ocean beaches, marshes and Bays, and accessible recreational opportunities, the City of Virginia Beach has become a major summer tourist haven. The beaches are the primary attraction for these tourists; however, the Back Bay area provides excellent opportunities for wildlife-oriented recreational activities.

Historically, the Back Bay region is well known for its waterfowl hunting and its fishery resources. According to the Virginia Outdoors Plan (1984), fishing is among the twelve most popular activities within the Hampton Roads region, and there is an ample resource to support many times the anticipated resident demand. However, in some cases, public access is limited. Additional boat launch ramps are needed in most of the localities. Largemouth bass, bluegills, and black crappie are the most popular fish species in the Bay. Surf fishing is also a popular activity on the ocean side.

Hunting programs currently exist on the Refuge, False Cape State Park, and the nearby Pocahontas and Trojan Wildlife Management Areas. The Virginia Department of Game and Inland Fisheries provides public hunting programs for waterfowl, as well as limited deer hunting. The Refuge conducts an annual deer hunt and has a trapping program. The Refuge provides excellent opportunities for birding during the spring and fall migrations and throughout the winter. Additional activities include photography, wildlife observation, and hiking. Crabbing is also a popular activity.

3. ADMINISTRATION

Refuge activities are administered from the headquarters building located on the barrier spit, approximately one mile south of the north boundary. This building also doubles as a Visitor Contact Station. The maintenance compound is located three quarters of a mile south of the headquarters building. A five-year funding history and current staffing chart are shown in Table 2 and Figure 4, respectively.

TABLE 2

FIVE YEAR FUNDING SUMMARY

FUND SOURCE	FY87	FY88	FY89	FY90	FY91
1260 (Minimum/Basic Levels)	297,163	368,732	389,294	389,294	398,133
1260 (Resource Problems)	10,000	10,000	10,000	16,600	N/A
1260 (ARMM)	169,470	169,384	30,000	136,712	N/A
6860 (Expenses for Sales)	3,000	3,000	3,000	3,000*	N/A
9120 (Fire)	N/A	N/A	N/A	5,200	16,500
Entrance Fee Start Up	N/A	29,700	N/A	N/A	N/A
Employee Moving Expenses	N/A	16,359	N/A	**	N/A
4960 (Fee Receipts)	N/A	N/A	N/A	16,636	N/A
1971 (Contributed Funds)	N/A	N/A	N/A	82,500	105,000 ***
(Challenge Grants)	N/A	N/A	N/A	N/A	96,400
MMS Base Maintenance	N/A	N/A	N/A	N/A	33,000
1210 (YCC)	13,600	N/A	N/A	N/A	N/A
2890 (Advance Procurement Plan)	<u>10,000</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
TOTALS	\$503,233	\$596,928	\$380,732	\$646,942	\$796,533

* Included in minimum level project (non-additive).

** Two employees transferred in - moving expenses were covered by RO Fund.

*** DU - MARSH funding - projected.

12-1-70
A 152 + 150000



17-5-98

19

Back Bay NWR is also the administrative headquarters for the 3,275-acre Plum Tree Island NWR, located in the City of Poquoson, Virginia. Primarily salt marsh, Plum Tree Island is actually a peninsula bordered by the Poquoson and Back rivers, and Chesapeake Bay. It was formerly used by the Department of Defense as a bombing and gunnery range and was transferred to the Service in 1972. Due to the presence of unexploded ordnance, Plum Tree is closed to all public use.

Because Back Bay staff are responsible for protecting and managing Plum Tree Island, and Refuge funds and manpower are expended each year in this effort, administration of Plum Tree Island must be considered when planning Refuge objectives. However, Plum Tree Island has its own set of situations, (physical, biological, and political) that will require a separate and distinct planning effort. Thus, this section does not include any further discussion of the Plum Tree Island Refuge.

4. LAND STATUS

Figure 5 shows the expanded Refuge boundary with 1990 acquisitions highlighted and inholdings numbered. The Refuge's land acquisition program is only in its second year; in FY 91 \$2 million has been appropriated from the Land and Water Conservation Fund and \$1 million set aside from the Migratory Bird Conservation Account for Back Bay acquisitions. An Environmental Assessment (1989) and Land Protection Plan (1990) are on file at the Refuge office.

Several utility rights-of-way bisect portions of the Refuge including electric lines owned by Virginia Power and telephone lines owned by Contel of Virginia. The electric lines supply power to False Cape State Park and the community of Corova Beach, North Carolina. Numerous other utility and ingress/egress rights-of-way crisscross inholding tracts within the Refuge boundary. A notable example is the proposed Ferrel Parkway right-of-way which the City is currently attempting to purchase. This planned four-lane highway bisects several Refuge inholdings and its construction would destroy a significant amount of wetlands and impact additional surrounding habitats.

The State of Virginia claims title to all riparian lands, including Bay bottoms. Acquired lands that have riparian or other title claims/discrepancies attached are designated in Figure 4 with a dash and Roman Numeral (e.g. 216a-I).

Figure 3. 1991 Acquisition Status
BACK BAY NATIONAL WILDLIFE REFUGE

UNITED STATES
FISH AND WILDLIFE SERVICE

CITY OF VIRGINIA BEACH, VIRGINIA

UNITED STATES
DEPARTMENT OF THE INTERIOR

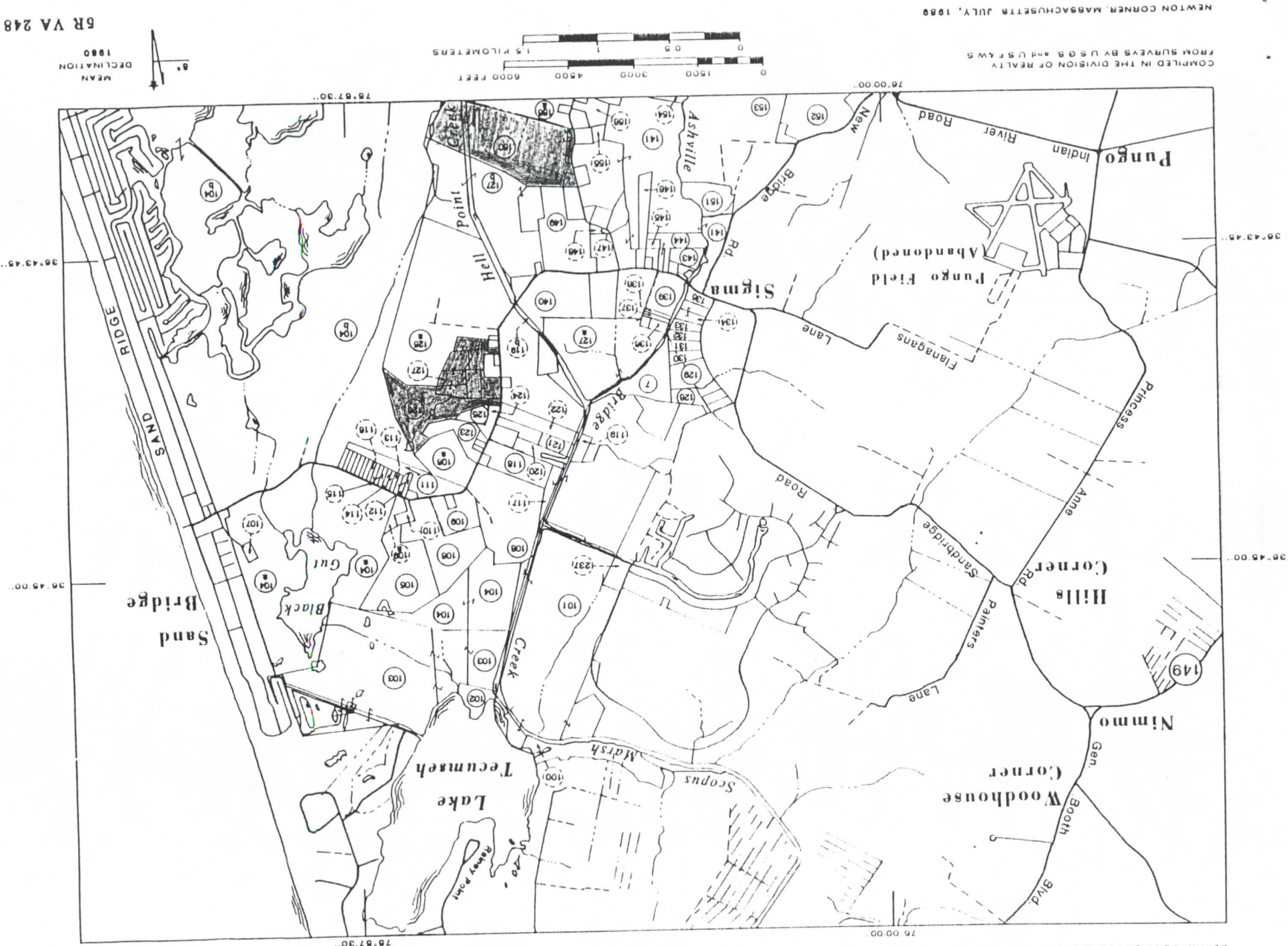


Figure 3a. 1991 Land Acquisition Status

BACK BAY NATIONAL WILDLIFE REFUGE

CITY OF VIRGINIA BEACH, VIRGINIA

UNITED STATES
FISH AND WILDLIFE SERVICE

UNITED STATES
DEPARTMENT OF THE INTERIOR

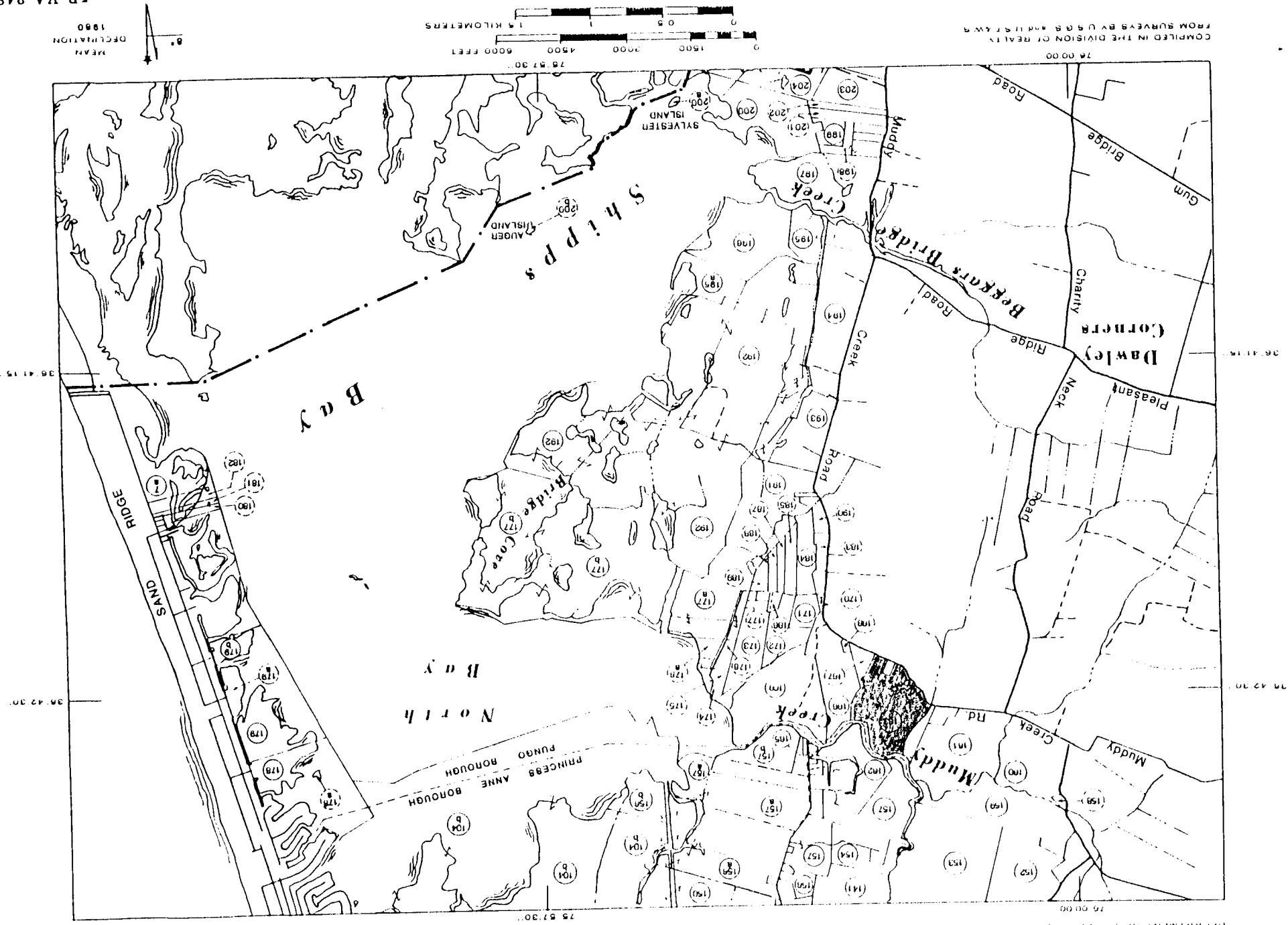
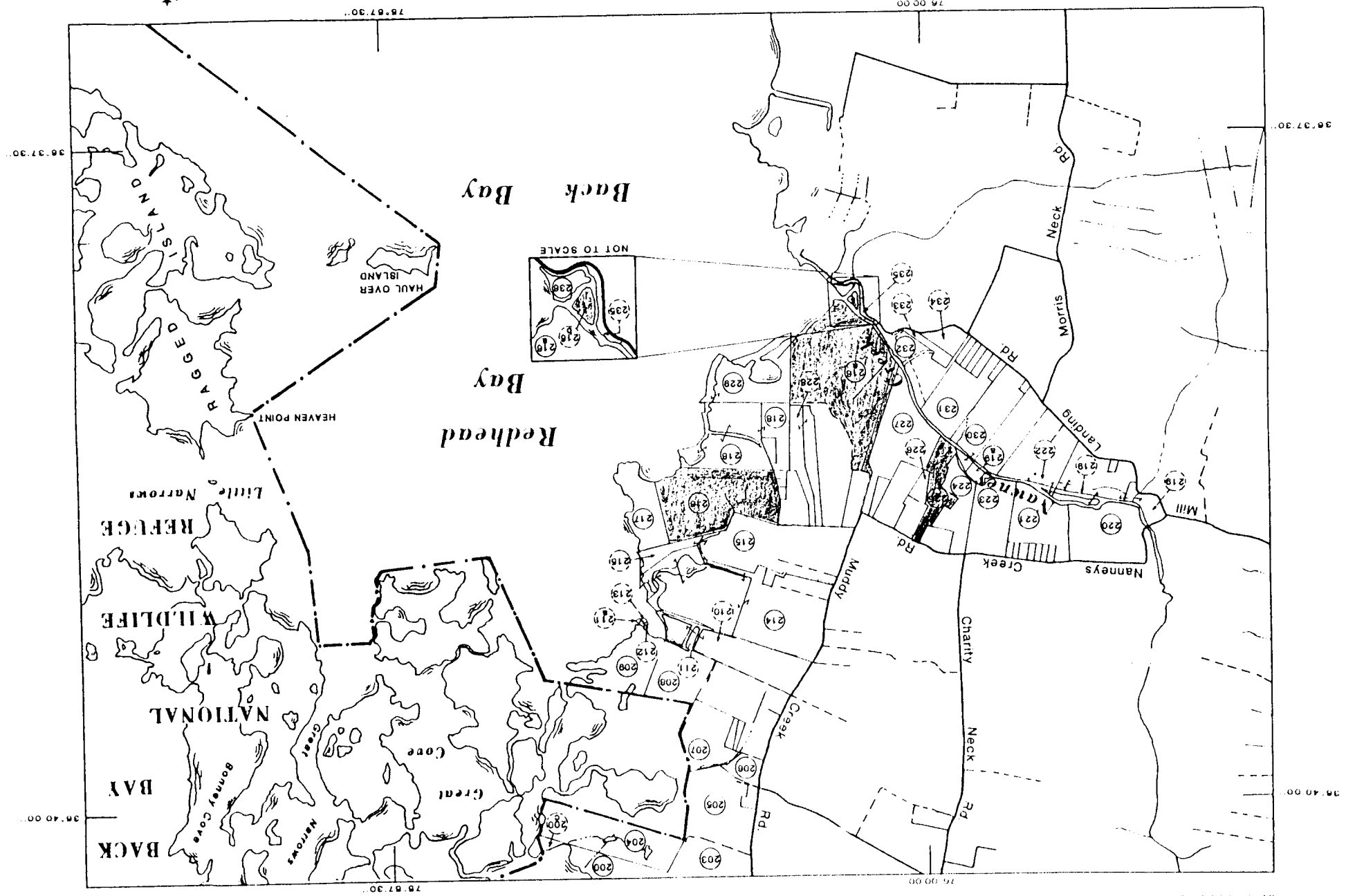


Figure 3b. 1991 Land Acquisition Status

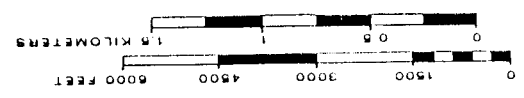
BACK BAY NATIONAL WILDLIFE REFUGE
CITY OF VIRGINIA BEACH, VIRGINIA



UNITED STATES
DEPARTMENT OF THE INTERIOR

UNITED STATES
FISH AND WILDLIFE SERVICE

COMPILED IN THE DIVISION OF REALTY
FROM SURVEYS BY U.S.G.S. AND U.S.F.A.W.S.



5. CURRENT MANAGEMENT DIRECTION

This section is divided into three categories: A) Public Use, which includes the volunteer and entrance fee programs, B) Wildlife and Habitat Management, and C) Major Facilities and Equipment. Public hunting and trapping programs, which are primarily wildlife management tools, are included under both public use and wildlife management.

A. Public Use

Prior to 1986, a large portion of the Refuge's public use was of a non-wildlife-oriented nature, involving activities such as swimming, sunbathing, and surfing. With residential growth escalating and tourism becoming a major industry, use of this type consistently increased each year. Gradually, problems began to result due to demands for parking, traffic congestion at the Refuge entrance, a lack of opportunities for wildlife-oriented users, negative impacts to the dune habitat, interference with resting/feeding shorebirds (including the piping plover), and an eroding image as an area whose main objective was/is to provide habitat and protection for migratory waterfowl. In 1986, with the piping plover's addition to the threatened species list and with the history of recorded problems resulting from non-wildlife-oriented use, the Refuge initiated actions aimed at phasing out these inappropriate activities.

Over the next several years and coinciding with this shift in emphasis, a decline in annual visits to the Refuge was experienced. During this same period, and continuing to the present time, there exists a recognizable trend away from summer use. June, July, and August, although still months of inflated activity, are beginning to level off and "fall into line" with use occurring during other months. By comparison, October, November, and December, traditionally months of heavy use at most waterfowl Refuges, are beginning to show a relative increase in visitor activity a Back Bay NWR. This trend is expected to continue over the next 3-5 years and beyond.

The decline in annual visits to the Refuge since 1986 is also attributed to the initiation of an entrance fee program, established in May of 1988. Studies conducted by the National Park Service indicate that declines in visitation are not unusual when implementing fees. Use generally begins to recover after the second year of collecting, as the public becomes accustomed to the new procedures and becomes more aware of the benefits derived from the program. Thus, the Refuge expected and observed a gradual increase in visits during 1990 which should continue in subsequent years. Whether or not visitation will eventually climb to the levels experienced in 1986, remains to be seen. Regardless, the shift away from a non-wildlife-oriented recreation program to

one which focuses on wildlife-oriented interpretation and environmental education will certainly provide for higher quality visits which directly support the Service mission.

Table 3 displays current public use outputs by number of visits per season. The "current" figures were derived from a five year average (86-90) conducted for each output/activity.

Much of the Refuge's public use is from Virginia Beach residents and their nearby neighbors, although regular use has been recorded by visitors from adjacent states and such major metropolitan areas as Richmond, Washington D.C., Baltimore, and Philadelphia. Annual visitation from 1980 to 1990 ranged from a low of 50,560 visits in 1980 to a high of 149,617 visits in 1986. The latest ten year average (Figure 6) for annual visitation is 99,117 and the average for those years since phasing to wildlife-oriented activities (1986 - 1989) is 113,910. Annual visitation for the most recent period (1990) was 84,042.

For activities not having traditional outputs such as the entrance fee and volunteer programs, Table 4 has been included to provide some measure of public participation.

TABLE 3

CURRENT PUBLIC USE OUTPUTS/ACTIVITIES (VISITS)

5-YEAR AVERAGE 1986 - 1990

	SPRING	SUMMER	FALL	WINTER	TOTAL
Public Relations ¹	12	12	13	84	5
Entrance Fee Program ²	N/A	N/A	N/A	N/A	N/A
Volunteer Program ²	N/A	N/A	N/A	N/A	N/A
Outdoor Classroom (S)	1,052	272	1,263	270	2,857
Outdoor Classroom (T)	124	45	149	28	346
Interpretive (Conducted)	765	467	695	283	2,210
Interpretive (Self-guided)	5,441	4,852	6,584	6,845	23,722
Interpretive (VCS)	2,254	3,799	3,421	1,098	10,572
Wildlife/Wildlands Obs. ³	11,318	11,593	12,017	13,943	48,871
Photography	974	769	1,101	1,416	4,260
Walking/hiking	7,508	7,184	8,101	9,205	31,998
Bicycling	2,836	3,640	2,815	3,322	12,613
Canoeing/Rowboating ⁴	N/A	N/A	N/A	N/A	N/A
Hunting (Big Game)	---	---	483	---	483
Warmwater Fishing	1,616	1,756	626	409	4,407
Saltwater Fishing	1,846	3,719	1,335	150	7,050
Crabbing	204	614	82	---	900
Cooperating Association ⁵	N/A	N/A	N/A	N/A	N/A
Trapping ⁶	5	---	---	47	52

¹Denotes number of news releases

²See Exhibit 3

³Includes photography, walking/hiking, bicycling, canoeing/rowboating

⁴No boating/canoeing occurs on Refuge waters. Back Bay is controlled by the Virginia Department of Game and Inland Fisheries.

⁵No Cooperating Association exists at the current time.

⁶Trapping figures are for the period 1986 -1989. No trapping occurred in 1990.

Figure 4. Public Visitation Trends, 1981-90

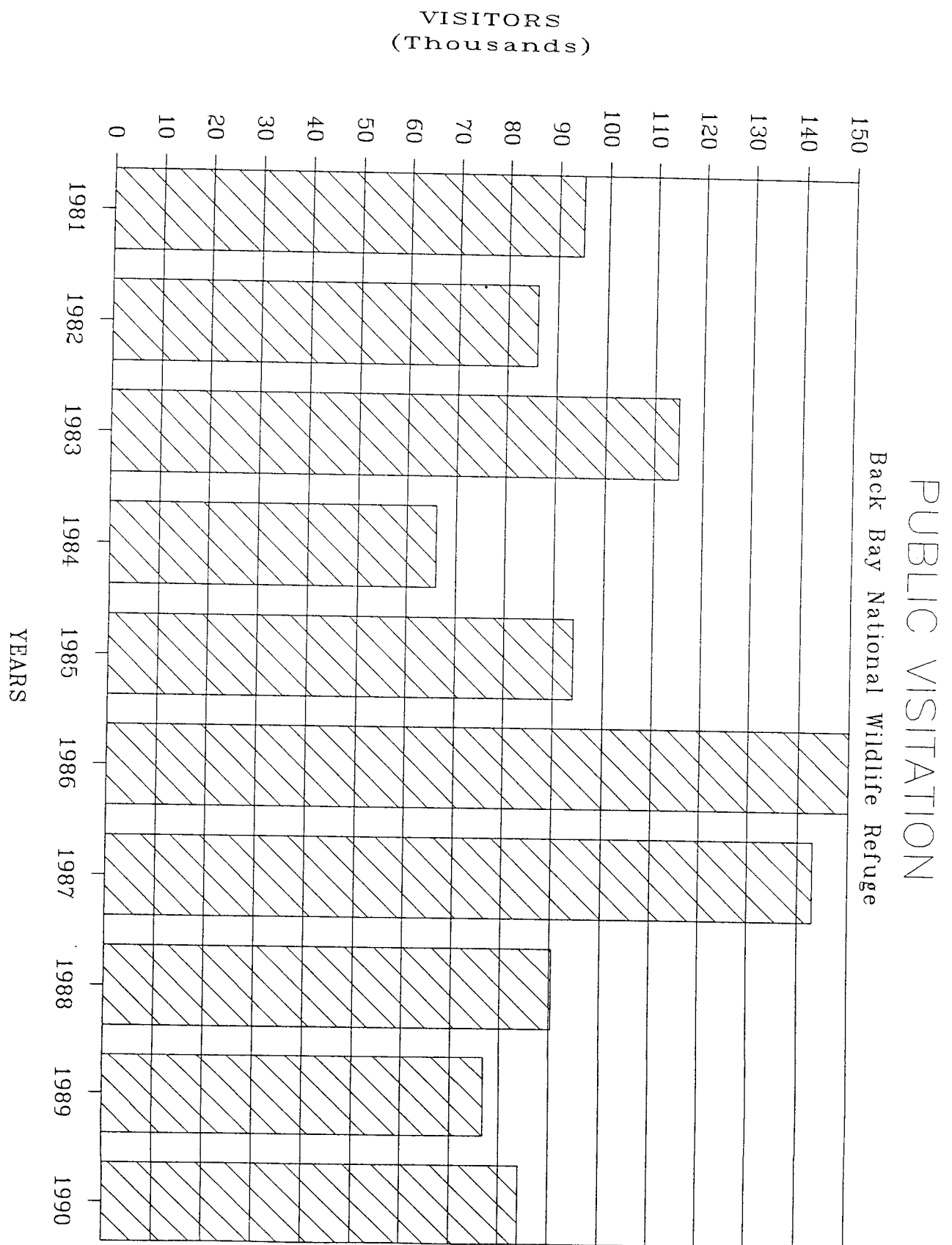


TABLE 4
ENTRANCE FEE AND VOLUNTEER PROGRAM DETAILS

Funds/Passport Issuance Generated By Entrance Fee Program

	1988 ⁷	1989 ⁸	1990 ⁸
Daily Permits/Special Fees	\$16,710	\$22,083	\$22,191.55
Duck Stamp Sales	4,390	4,157	3,062.50
Golden Eagle Sales	<u>550</u>	<u>1,000</u>	<u>825.00</u>
TOTAL COLLECTED FUNDS	\$21,650	\$27,240	\$26,079.05
Golden Age Passports	315	202	152
Golden Access Passports	13	10	16

Volunteer Numbers/Hours

	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>Five Year Average</u>
# Volunteers	51	31	74	150	195	100
Volunteer Hours Contributed	3,757	2,581	2,389	3,091	1,850	2,734

⁷Fees collected during the period 5/1/88 - 12/31/88

⁸Fees collected during the entire calendar year

B. Wildlife and Habitat Management

Biological resource management is geared toward providing habitat for migratory birds, especially waterfowl and shorebirds, and threatened and endangered species. Following are the major management practices employed to improve habitats on the barrier spit (no resource management has occurred on new acquisitions prior to 1991): Water level manipulation within impoundments, disking, root raking, prescribed burning, mowing, planting, and wildlife inventories.

Table 5 summarizes some of the Refuge's major habitat improvement efforts over the past five years.

TABLE 5 - Habitat Management Activities and 1986 - 1990

<u>Activity</u>	<u>Acres Treated</u>				
	1986	1987	1988	1989	1990
Prescribed burning	130	30	60	135	540
Disking/root raking	167	--	45	120	65
Mowing	--	--	40	40	34
Pest plant control	10	50	--	--	150
Planting	--	--	--	75	34

In addition to the above activities, the Refuge is currently (1991) engaged in a major rehabilitation of the impoundment system. This two-year project will result in the creation of a 45 acre sub-impoundment (storage pool) within the existing C-Pool; a 13-acre water transport flume within B-Pool; 3 new impoundments east of the east dike (by extending the A/B and B/C crossdikes east to the back dune line); adding and/or replacing at least 13 water control structures; excavating an additional 8 miles of ditches; and the raising and resloping of all existing dikes. Ducks Unlimited is providing matching funds of \$187,000 to help offset the costs of the project. Major construction components of the project are being handled force account, primarily by Refuge staff.

Artificial nesting structures are provided and maintained on the Refuge for wood ducks, osprey, and purple martins. Wood duck nesting boxes receive substantial use by other species as well, including screech owls and flickers. Between 1986 and 1990, the Refuge's wood duck nesting box program received modest attention and there was no documentation of any fledgling survival during the period. In January and February of 1990, the Refuge BioTech performed a complete review of the program and instituted some changes that will hopefully lead to increased production. Numbers of boxes increased from 16 to 23 between 1986-90.

During the same period, osprey nesting platforms fared much better. Between 11 and 16 platforms were available for use and at least 16 birds were fledged during the '86 to '90 period. No figures were available for 1988 success although use of five platforms by osprey is documented for the year.

Seasonal closure of the north mile of Refuge beach was first enacted in 1986 to protect shorebird habitat and encourage piping plover nesting. During that year, the northern-most quarter mile of beach was left open for swimming and sunbathing. In 1987, the entire north mile was closed to these and other activities including surfing and fishing. Only through foot and bike traffic is permitted in a small posted strip along the normal high tide line. The Refuge beach is checked daily during the summer for shorebird use, especially by piping plovers.

The beach is also surveyed daily throughout the summer for signs of nesting loggerhead sea turtles. If a nest is discovered, the eggs are transferred to a predator-proof cage and re-buried in a safe location. They are then monitored and, after hatching, released into the ocean.

In other sea turtle activities, the Refuge is involved in a cooperative study with the Virginia Institute of Marine Science, the Virginia Marine Science Museum, and the Columbus (Ohio) Zoological Gardens involving hatchling loggerheads. Objectives of the study are to: 1) document how size of enclosures and diet affects growth rates, 2) investigate ontogenetic changes of swimming behavior, and 3) to monitor at-sea behavior of head-start turtles to determine their fates. The Refuge's primary responsibilities are to issue and monitor special use permits and to provide eggs/hatchlings, funding, and a release site.

Public deer hunting has been permitted on the Refuge since 1986 to keep populations in check and improve the health of the herd. Between 1986 and 1990, harvest ranged from 142 in 1986 to 30 in 1990. Average harvest during the period was 69. Taking of both sexes is allowed with both bow and shotgun. Bow hunting has been limited from 17% to 25% of total available hunting days. Indications are that the herd is stabilizing and health indices are improving. The hunt is also a cooperative venture with False Cape State Park, whose hunting season is planned to coincide with the Refuge's.

A public trapping program has been in effect at the Refuge since 1970. However, trappers have shown little or no interest in the program for the past six years. No trapping occurred during 1985, '89, or '90. With the exception of 1987, low fur prices have been the norm and this is the suspected cause of disinterest. Nutria are the cause of considerable concern of the part of Refuge staff due to their tendency to undermine dikes and water control structures. An

interim proposal was approved in 1990 to allow Refuge staff to reduce nutria numbers, under certain conditions, throughout the year.

Two other nuisance animals, feral hogs and horses, are present on the Refuge and are the object of considerable expenditures of staff time and funds. Both of these species consume and destroy vegetation that is valuable to a variety of native migratory and resident wildlife. Other minor problems also exist in dealing with hog damage to roads and cleaning horse manure from sidewalks and trails near the Visitor Contact Station. Public safety is also an issue since some visitors try to approach horses, unaware of the danger involved. Taking of feral hogs is permitted during the deer hunt and they are included in the interim animal control plan mentioned above. Potential removal of horses from the Refuge will be more delicate politically, due to the public's apparent interest in observing them on the Refuge and the attention feral horses elicit from the public and the media.

C. Major Facilities and Equipment

Major Structures and Facilities (Figure 7) and Buildings (Figure 8) are listed below. Real Property # 45, Mobile Home with Addition, was destroyed by arson fire in January, 1991. Additional facilities will be added after the completion of boardwalk and gravel trails around the Headquarters/Visitor Contact Station and the impoundment rehab project.

Major equipment is listed below:

Vehicles (Trucks and passenger vehicles)

1989 Ford Bronco 4x4 (LE vehicle)
1989 Dodge PU 4x4
1988 Chevrolet Suburban 4x4
1988 Chevrolet Dump Truck (1 ton)
1987 Dodge PU 2x4
1985 Plymouth Reliant wagon
1985 Dodge Ramcharger 4x4
1984 Chevrolet S-10 PU 4x4
1979 Mack Dump Truck (12 cu.yd.)
1970 Bus (36-passenger)
1969 Ford Stake-body Truck

Heavy Equipment

AC Front-end Loader
Ford Backhoe/Loader
JD 4240 Farm Tractor
Ford Farm Tractor
JD 550A Dozer/Crawler
Champion Road Grader

U.S. Department Of The Interior
Fish And Wildlife Service

REAL PROPERTY INVENTORY OF OTHER STRUCTURES AND FACILITIES

1-FWS 248

GSA No. 1435-0934700

Field Station Back Bay NWR

Division:

County (s): City of Virginia Beach

State: Virginia

Date 10/10/90

Prop. No.	GSA Code	Tract No.	City Code	County Code	Kind	Facility Code	Description Of Bldg.	Cont.	Size	Year Acqd	Cost	Est. Rpt. Cost
									No. Type	From To	(Thousands)	(Thousands)
14	76	39	2540	999	Road	567	Beach ramp for vehicle access	69A	450 LNFT	1940	1.0	5.0
17	76	39F	2540	999	Bridge	329	Long Island Bridge, wood	60H	30 LNFT	1941	0.5	7.0
20	80	39	2540	999	Dock	449	Dock with wooden boat ramp	63C	3255 SQFT	1941	0.2	3.0
21	80	39	2540	999	Dike	435	Earthen dike system	74A	18000 LNFT	1963	129.1	140.0
23	76	39	2540	999	Public use road	320	Paved entrance road	69A	5300 LNFT	1967	0.3	3.0
27	71	39	2540	999	Sewage treatment facilities	215	For office/visitor sta., with fence	73H	8100 SQFT	1988	44.9	44.9
28	80	39	2540	999	Fence	553	Security fence-maintenance compound	64F	870 LNFT	1979	6.0	7.0
29	80	39F	2540	999	Bulkhead	451	Aluminum bulkhead - Long Island	68B	1000 LNFT	1978	40.0	50.0
30	80	39	2540	999	Water control structures	440	A & C pool drain offs	74B	104 LNFT	1979	20.0	55.0
31	71	39	2540	999	Pumping station	441	Two pumps with piping	73J	116 LNFT	1981	100.0	120.0
32	80	39	2540	999	Boardwalk	328	Trial/walkway, wood	72F	1100 LNFT	1980	6.0	7.0
35	80	39	2540	999	Visitor parking lot	322	Asphalt with concrete curbing	66A	37697 SQFT	1985	70.8	70.8
39	80	39	2540	999	Portable boardwalk	328	Seaside Trail, wood, 3'x915'	72F	915 LNFT	1988	3.5	3.5
41	80	39	2540	999	Beach access gate	554	18' electronic arm, 2 card readers	64J	18 LNFT	1989	8.0	8.0
42	80	39	2540	999	Refuge entrance gates	554	Two 20' metal electronic gates	64J	40 LNFT	1989	45.2	45.2

Figure 6.

U.S. Department Of The Interior
Fish And Wildlife Service

REAL PROPERTY INVENTORY OF BUILDINGS

I-FWS 248

GSA No. 1435-0934700

Field Station Back Bay NWR

State: Virginia County (s): City of Virginia Beach

Date 10/10/90

Prop. No.	GSA Code	Tract No.	City Code	County Code	Kind	Facility Code	Description Of Bldg.	Const. Code	Year Acq'd	No. Of Rooms	Gross Sq. Ft.	% Occ.	Cost (Thousands)	Est. Rep.Cost (Thousands)	
22	40	39	2540	999	Storage/Shop	106	Brick,conc. blk., truss roof	61B	1964	1983	2	2228	100	30.0	75.0
25	40	39	2540	999	Storage	106	Quonset hut and chain link fence	61C	1972	1983	1	497	100	90.5	100.0
26	40	39	2540	999	Storage - Oil	106	Metal frame	61C	1970	1970	1	96	100	0.7	2.0
34	40	39	2540	999	Storage	106	Metal frame	61C	1979	1979	2	2560	100	50.0	60.0
36	10	39	2540	999	Office/Visitor contact station	101	1 story wood frame, 46'x76'	61F	1985	1985	12	3496	100	407.6	407.6
37	40	39	2540	999	Storage , Equipment	106	Pole shed, wood frame, 30'x121'	70N	1987	1987	1	3630	100	1.0	1.0
38	80	39	2540	999	Fee collection booth	110	Wood frame, 8'x8'	61F	1988	1988	1	64	100	2.4	2.4
40	40	39	2540	999	Storage - flammable	106	Cinder block	61H	1989	1989	1	384	100	21.8	21.8
43	30	126	2540	999	House	105	1 1/2 story, wood frame	61F	1990	1990	6	800	0	1.0	1.0
44	30	163a	2540	999	House - Historical	109	1 and 2 1/2 story, wood frame	61F	1990	1990	7	1255	0	0	-
45	30	163a	2540	999	Mobile home with addition	105	Al. 10'x52', wd. frm. 12.2'x16.5'	61G	1990	1990	4	721	0	0	-

All Terrain Vehicles

1990 Yamaha TerraPro 4x4

1988 Suzuki 4x4

The Refuge also has various attachments for the equipment listed above including a kewanee disk, mowers, pump, auger, and seeder. In addition, the maintenance compound is well-stocked with a variety of hand and power tools.

6. AGREEMENTS AND PERMITS

The Refuge is involved in several cooperative ventures. The two major partners are Ducks Unlimited, Inc. who is cost sharing the impoundment rehab project, and the Virginia Institute of Marine Science, who is coordinating the "Head Start" sea turtle program. Both of these programs are discussed briefly above under Habitat and Wildlife Management. The Refuge has no formal Cooperative Fire Agreement, or any other formal agreements, with the City, State, or any other Federal agencies.

There are several long-term research studies being conducted on the Refuge that are handled through issuance of Special Use Permits. One involves a beach grass planting study, another is for scientific collecting of vascular plant specimens. Intermittent access is also permitted for shoreline/erosion studies/measurements conducted by the City and the Corps of Engineers. By far the most complex and time-consuming permit program is the Motor Vehicle Access Permit Program (MVAPP). This program is discussed in the Introduction section and current regulations and background information is attached as Appendix 2.

Ninety-nine Special Use Permits were issued during 1989. Forty eight of these permits were issued under the Motor Vehicle Access Permit Program (MVAPP). The remaining 51 permits were issued for a variety of recreational, educational, special privileges (weddings) and research related purposes. The Refuge continued to charge a user fee of those groups requesting special privileges, special services, or who charged a fee for participating in group activities on the Refuge.

Seventy-six special use permits were issued during 1990. This number includes the 34 motor vehicle access permits issued to North Carolina residents in accordance with the MVAPP. These MVAPP permits are valid for the 1991 calendar year. An additional eight MVAPP permits are pending and will likely be issued during 1991. The remaining 42 permits were distributed among scout, recreational and volunteer groups, school and municipal parks department groups, wedding parties, youth and church groups, researchers, and birding organizations. The decrease in MVAPP permits is the result of two deaths, four relocations by permittees, and the decline of one cooperator to renew their permit.

7. EXISTING MANAGEMENT PLAN CHAPTERS

The following management plans have been prepared, approved or are being prepared:

<u>Management Plan Chapter</u>	<u>Latest Date of Approval/Revision</u>
Safety Management Plan*	12/04/87
Marsh and Water Management Plan*	1959
Fire Management Plan**	03/20/87
Trapping Management Plan	10/19/89
Disease Prevention and Control Plan	01/23/85
Public Use Management Plan	02/23/90
Hunting Plan	08/03/89
Law Enforcement Plan	12/28/90
Search and Rescue Plan	undated
Wildlife Inventory Plan	05/23/89
Sign Plan**	
Interim Animal Control Proposal	01/11/91
Land Protection Plan	02/15/90

* Currently being revised

** Plan needs completion/revision; awaiting revision of guidelines



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EXECUTIVE ORDER

ESTABLISHING THE BACK BAY MIGRATORY WATERFOWL REFUGE

Virginia

By virtue of and pursuant to the authority vested in me as President of the United States, and in order to effectuate further the purposes of the Migratory Bird Conservation Act (45 Stat. 1222), it is ordered that all lands and waters acquired or to be acquired by the United States within the following-described area, in Princess Anne County, Virginia, be, and they are hereby, reserved and set apart, subject to existing valid rights, for the use of the Department of Agriculture, as a refuge and breeding ground for migratory birds and other wildlife: *Provided*, that any private lands within the area described shall become part of the

refuge hereby established upon acquisition of title thereto or lease thereof by the United States:

Beginning at a point S. 34°02' E., 35.18 chains, from U. S. C. & G. S. Triangulation Station "Club", and about one-half mile south of the Little Island Coast Guard Station, on the Atlantic Ocean shore, marked with a U. S. Biological Survey standard concrete post;

Thence along the Atlantic Ocean shore, with the meanders thereof,

S. 23°58' E., 36.61 chains;
S. 18°50' E., 10.24 chains;
S. 24°52' E., 10.24 chains;
S. 24°07' E., 10.57 chains;
S. 25°15' E., 10.43 chains;
S. 24°59' E., 11.61 chains;
S. 24°32' E., 24.70 chains;
S. 24°01' E., 11.15 chains;
S. 22°26' E., 11.64 chains;
S. 20°07' E., 14.49 chains;
S. 22°15' E., 23.54 chains;
S. 19°20' E., 12.11 chains;
S. 22°37' E., 23.71 chains;
S. 22°51' E., 22.14 chains;
S. 18°44' E., 10.62 chains;
S. 24°19' E., 11.05 chains;
S. 17°52' E., 10.90 chains;
S. 19°22' E., 11.05 chains;
S. 17°56' E., 10.68 chains;
S. 14°40' E., 22.66 chains;
S. 19°57' E., 12.19 chains;
S. 17°02' E., 9.79 chains;
S. 20°26' E., 7.51 chains, to a point;

Thence inland,

S. 87°59' W., 97.21 chains, to a point on the east shore of Sand Bay;

Thence in Sand Bay,

West, to a point 22.73 chains east of the eastern edge of the Ragged Islands;

Southerly, with a line parallel to, and easterly 22.73 chains distant from, the eastern edge of the Ragged Islands;

West, 22.73 chains, to the southernmost point of the Ragged Islands;

Thence in Back Bay,

Northwesterly, approximately 190.00 chains, to the southwestern extremity of Haul Over Island at Rocky Point;

Thence in Red Head Bay,

Northeasterly, approximately 16.00 chains, to the northwestern extremity of Haul Over Island, near North Point on said island;

Northeasterly, approximately 78.00 chains, to Heaven Point on the Ragged Islands;

Northwesterly, approximately 42.00 chains, to the southwestern extremity of a marshy island lying southwest of Long Island, and immediately north of Little Narrows;

Northerly, approximately 37.00 chains, to a point on the western edge of a marshy island lying west of Long Island, and east of Great Narrows;

Thence across Great Narrows,

Westerly, approximately 23.00 chains to a point on the eastern edge of a

marshy island bounded by Great Cove, Great Narrows, Red Head Bay, and Long Point Creek;

Thence along the eastern edge of said island with the meanders thereof,

S. 34°47' W., 3.43 chains;
S. 13°21' E., 2.80 chains;
S. 12°59' W., 2.70 chains;
S. 6°45' E., 3.80 chains;
S. 27°28' W., 4.00 chains;
S. 2°26' E., 2.73 chains;
S. 24°00' W., 1.12 chains;
S. 41°31' E., 1.88 chains;
S. 56°11' W., 1.44 chains;
S. 30°42' W., 3.09 chains;
S. 56°50' W., 2.90 chains, to a point on the southeastern extremity of said island;

Thence in Red Head Bay,

Westerly, approximately 34.00 chains, to the Southwestern extremity of Long Point Island;

Northwesterly, approximately 43.00 chains, to a point on East Head Bay Point, at the entrance to Head Bay Cove;

Thence across Head Bay Cove,

Northwesterly, approximately 11.00 chains, to a point on West Head Bay Point;

Thence across marsh,

N. 80°35' W., 43.24 chains, to a point in the line between marsh and fast land;

Thence between marsh and fast land,

N. 23°17' E., 11.16 chains;
N. 16°29' W., 11.90 chains;
N. 1°57' W., 2.35 chains;
N. 12°58' E., 6.95 chains;
N. 2°04' E., 2.05 chains;
N. 25°44' W., 2.47 chains;
N. 7°38' E., 10.63 chains;
N. 25°14' W., 0.56 chain, to a point;

Thence across marsh,

S. 73°22' E., 34.50 chains;
S. 74°04' E., 16.02 chains;
N. 8°00' E., 5.92 chains, to a point on the west shore of Cedar Creek Cove;

Thence along west shore of said cove,

Northerly, approximately 2.50 chains, to a point;

Thence across marsh,

N. 8°00' E., 5.83 chains;
N. 18°35' W., 4.68 chains, to a point on the southeast shore of Sylvesters Cove;

Thence along the shore of Sylvesters Cove, with the meanders thereof,

N. 22°39' E., 2.56 chains;
N. 82°05' E., 2.44 chains;
S. 78°03' E., 3.32 chains, to a point on the west bank at the mouth of ditch connecting said cove and Cedar Creek Cove;

Thence across said ditch,

Northeasterly, approximately 0.50 chain, to a point on the south shore of Shipp's Bay;

Thence in Shipp's Bay,

Northeasterly, approximately 19.00 chains, to a point on the north bank at the mouth of Kemps Creek, at Shipp's Bay;

Thence along the shore of Shipp's Bay with the meanders thereof,

N. 22°06' E., 5.39 chains;
N. 39°34' E., 1.75 chains;
N. 60°47' E., 9.07 chains;
N. 28°05' E., 2.80 chains;
N. 36°40' E., 3.07 chains;
N. 1°27' E., 2.61 chains;
N. 12°15' E., 1.74 chains;
N. 39°05' E., 5.82 chains;

Thence in Shipp's Bay,

Northeasterly, approximately 35.00 chains, to the northwestern extremity of Augers Island Bend;

Northeasterly, approximately 25.00 chains, to the most northerly point of Walkers Island Point;

Northeasterly, approximately 102.00 chains, to the most northerly point of Long Island at the mouth of Deep Creek;

Thence across Deep Creek,

Easterly, approximately 22.00 chains, to a point on the east shore at the mouth of Deep Creek at Shipp's Bay;

Thence across marsh and sand flats, East, 25.22 chains, to the point of beginning.

This reservation shall be known as the Back Bay Migratory Waterfowl Refuge.

FRANKLIN D. ROOSEVELT

THE WHITE HOUSE,

June 6, 1938.

[No. 7907]

[F. R. Doc. 38-1603; Filed, June 7, 1938; 2:41 p.m.]

Rules, Regulations, Orders

TITLE 7—AGRICULTURE AGRICULTURAL ADJUSTMENT ADMINISTRATION

DETERMINATION OF PROPORTIONATE SHARES FOR FARMS IN THE TERRITORY OF HAWAII FOR THE 1937 SUGAR CROP

Pursuant to the provisions of Section 302 (a) of the Sugar Act of 1937, I, H. A. Wallace, Secretary of Agriculture, do hereby determine that the proportionate share for each farm in the Territory of Hawaii for the 1937 crop, with respect to which payment is authorized under section 302 (c) of the said act, shall be the amount of sugar, raw value, commercially recoverable from sugarcane grown on each farm and marketed (or processed by the producer) for the extraction of sugar on and after July 1, 1937.

Done at Washington, D. C. this 8th day of June 1938. Witness my hand and the seal of the Department of Agriculture.

[SEAL]

H. A. WALLACE,

Secretary.

[F. R. Doc. 38-1626; Filed, June 8, 1938; 12:49 p.m.]

notice concerning this revision appeared in the *Federal Register* (48 FR 46862) on October 14, 1983.

EFFECTIVE DATE: September 23, 1987.

FOR FURTHER INFORMATION CONTACT: Anthony D. Leger, Refuge Manager, Back Bay NWR, 4005 Sandpiper Road, P.O. Box 6286, Virginia Beach, Virginia 23458; Telephone 804-721-2412.

SUPPLEMENTARY INFORMATION: On February 19, 1987, there appeared in the *Federal Register* (52 FR 5159) a proposed rule on Special Regulations Concerning Public Access, Use and Recreation on the Back Bay NWR. Interested persons were allowed 60 days in which to submit written comments, suggestions, or objections, with respect to the proposed rule. Several written comments were received. After consideration of all comments, suggestions and objections, several suggested changes from the proposed rule were adopted.

Background

For many years, Back Bay NWR was open to the public for a number of purposes, and free access to the beach by vehicles was permitted. In 1961, less than 10,000 persons used the refuge for various purposes. During the late 1960's, the development of lands south of the refuge for recreational/residential purposes and the increase in availability and popularity of off-road recreational vehicles, resulted in sharply accelerated use. By 1970, the number of persons using the refuge had increased to 225,000 and in 1971, to 348,000. All but a small fraction of this increase involved off-road vehicular use across the beach portion of the refuge. By 1969, it became evident that total public use had resulted in environmental degradation to the extent that a serious conflict existed with respect to the administration of the entire refuge for its intended purposes. Following careful analysis it was determined that certain controls of vehicular uses of the beach were required to reverse the trend of refuge habitat destruction.

On January 12, 1972, the Service provided notice in the *Federal Register* (37 FR 447) that the Back Bay NWR would be closed to use by unauthorized vehicles. An Environmental Impact Statement (EIS) assessing the impacts of this restriction was prepared (FES 72-33, 1973). A final rule was published on February 28, 1973, that required authorized users to obtain permits for access. Recreational vehicle traffic was prohibited. Permits were issued to property owners in the proposed False Cape State Park area, permanent full-

APPENDIX 2

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 25

Public Access, Use and Recreation; Back Bay National Wildlife Refuge, VA

AGENCY: Fish and Wildlife Service,
Interior.

ACTION: Final rule.

SUMMARY: The Fish and Wildlife Service (Service) is revising special regulations concerning public access, use, and recreation on the Back Bay National Wildlife Refuge (NWR), which were published in the *Federal Register* on May 28, 1980 (45 FR 35823), January 13, 1983 (48 FR 1501), September 1, 1983 (48 FR 39661), and February 19, 1987 (52 FR 5159). This final rule relaxes certain limitations and clarifies eligibility criteria on vehicular access through the Back Bay NWR by revising 50 CFR 25.34. It also incorporates the provisions of Pub. L. 96-315, approved on July 25, 1980, and Pub. L. 98-146, approved on November 4, 1983. Pub. L. 98-146 amended Pub. L. 96-315 to allow access for "up to 15 additional" permittees who met specific conditions for access. A

time residents of the Outer Banks in North Carolina and their visitors, commercial fishermen, emergency service vehicles and schools buses. Implementation of the rule was followed by legal action in a suit against the Service in the District Court for the Eastern District of Virginia (*Coupland, et al. v. Morton, et al.*). A final decision was handed down by Judge John MacKenzie on February 28, 1975 (Civil Action No. 145-73-N), fully upholding the authority of the Secretary of the Interior to control vehicular access across the Back Bay NWR. This order was ultimately upheld by the Fourth Circuit Court of Appeals in a decision issued on July 7, 1975.

The matter of regulating beach use at Back Bay NWR continued to be the subject of considerable discussion by the many persons denied vehicular access to recreational properties in North Carolina. On July 29, 1978, following the preparation of an Environmental Assessment (EA), a liberalized rule (41 FR 31537) was issued which provided limited access eligibility not just to permanent residents of the area as the previous rule had provided, but to all persons who, as of October 8, 1975, owned improved property on the Outer Banks of Currituck County, North Carolina, from the Virginia State line south to and including the village of Corolla, North Carolina.

In order to mitigate the impact on the beach by these additional permittees, it was necessary to place more restrictions on, and limit the number of round trips per day for, permanent full-time residents living between the south boundary of the refuge and the village of Corolla, North Carolina. Based on the restricted access imposed on the permanent full-time residents by the 1978 regulations (41 FR 22361) and the permit program management experience gained from the 1978 and 1977 (42 FR 23151) regulations, the 1978 rule (43 FR 28314) continued to provide access to qualified permanent full-time and part-time residents. These special regulations also provided notice that the refuge beach would be closed to vehicular traffic after December 31, 1979. Subsequently, in an effort to avoid undue hardship on permanent residents who had established residency prior to December 31, 1978, an interim rule was published on December 13, 1979 (44 FR 72161), which provided for access for those permanent residents only. Public comments on this interim rule were invited. All comments submitted by January 31, 1980, were given consideration.

The final rule on Back Bay NWR access, as published on May 28, 1980 (45 FR 35823), provided access for those permanent full-time residents who could provide adequate proof of continuous residency commencing prior to December 31, 1978, on the Outer Banks from the refuge boundary south to and including the village of Corolla, North Carolina. The south boundary of the area for access was defined as, "A straight east-west line extending from Currituck Sound to the Atlantic Ocean and passing through a point 1,600 feet due south of the Currituck Lighthouse." The May 28, 1980, rule also denied a petition for rulemaking received from the Outer Banks Civic League and Pacific Legal Foundation to allow access through Back Bay NWR for part-time residents of the Outer Banks and False Cape State Park.

On July 25, 1980, President Carter signed Pub. L. 96-315 which provided that any time regulations limiting access to the refuge are issued, the Secretary of the Interior shall issue to any "eligible applicant" a permit to enable the applicant to commute across the refuge. The term "eligible applicant" was defined to include: "All full-time residents who can furnish adequate proof of residency commencing prior to December 31, 1979, on the Outer Banks from the refuge boundary south to and including the village of Corolla, North Carolina, as long as they remain full-time residents." The south boundary was defined as a "straight east-west line extending from Currituck Sound to the Atlantic Ocean and passing through a point 1,600 feet due south of the Currituck Lighthouse." On August 7, 1980 (45 FR 52391), the Back Bay access regulations were modified to reflect the legislation.

On September 18, 1981, the Assistant Secretary for Fish and Wildlife and Parks published in the *Federal Register* (46 FR 46358) a Notice of a Petition for Rulemaking submitted by the Virginia Wildlife Federation and the Pacific Legal Foundation seeking the extension of access privileges through the refuge to part-time residents of the Outer Banks. On January 13, 1983, the Service published in the *Federal Register* (48 FR 1501), an extension of the May 28, 1980, regulations (including the August 7, 1980, modification) governing access. The extension was necessary, until revised rules could be issued, so that orderly management of the Back Bay NWR would not be compromised.

On September 1, 1983, the Assistant Secretary published in the *Federal Register* (48 FR 39681), a proposed rule and denial of petition. The proposed rule

included the same changes contained in the *Federal Register* notice of October 14, 1983, outlined below, with the exception of the provision dealing with access essential to maintaining a livelihood. As a result of the passage of Pub. L. 98-107 and the associated *Federal Register* notice (48 FR 48862), finalization of this proposed rule was unnecessary. On November 4, 1983, Pub. L. 98-107 was replaced by Pub. L. 98-146. The provisions of both laws as they relate to access through the Back Bay NWR are identical.

On October 14, 1983, the acting Director published in the *Federal Register* (48 FR 48882) a Notice of Rulemaking. This notice incorporated the provisions of Pub. L. 98-107 into the Back Bay NWR access regulations. Pub. L. 98-107, an amendment to Pub. L. 96-315, stipulates that additional access permits may be issued as follows: "Up to 15 additional permits shall be granted to those persons meeting any one of the following conditions:" (1) A resident as of July 1, 1982, who held a valid Service access permit for improved property owners at any time during the period from July 29, 1978, through December 31, 1979. (2) Anyone in continuous residency since 1978 residing in the area bounded on the north by the refuge boundary and on the south by a straight line passing through a point on the east-west prolongation of the centerline of Albacore Street, Whaleshead Club Subdivision, Currituck County, North Carolina. (3) Any permanent, full-time resident as of April 1, 1983, not otherwise eligible who can substantiate to the Secretary of the Interior that access is essential to their maintaining a livelihood."

In December 1986, the U.S. General Accounting Office (GAO) issued a final report making several recommendations to the Service concerning vehicular access permits. This final rule implements the recommendations contained in the final report. This rulemaking incorporates several minor changes to the existing regulations which further clarify eligibility, provide for the needed regulation of access permits and relax certain limitations on access. This final rule supplements the general regulations that govern access and recreation on wildlife refuges as set forth in Title 50 of the Code of Federal Regulations. The Back Bay NWR, comprising approximately 4,600 acres, is delineated on a map available from the refuge manager or the Regional Director. The policy of the Department of the Interior, whenever practical, is to afford the public an opportunity to participate in the rulemaking process. Public

comments on the proposed rulemaking were invited. All comments submitted by April 20, 1987, were given consideration.

Analysis and Discussion of Public Comments

In summary, of the 44 comments received, 8 supported the adoption of the proposed regulations or more liberal regulations, and 38 opposed the proposed regulations or favored making them more restrictive. Comments on the proposed rule were significant and indicated that further revisions of the proposed rule were necessary.

Issue: Additional vehicular traffic contradicts the original intent of the permit access system.

Response: Thirteen respondents opposed the regulations because they felt that the rule provided for additional permits or a significant increase in beach travel. The 15 additional permits referred to in the rule relate to the number authorized by Pub. L. 98-148 which was passed in 1983. With the exception of medical access waivers, no additional permits beyond this congressionally-mandated number are authorized for issuance. Additional trips will be made under the provisions relating to commercial service vehicles. These trips will be minimized, however, due to the emergency-only nature of the trips. The original intent of the access permit system was to provide access only to qualified individuals (later defined as permanent residents) who met specific criteria. This is still the intent of the Service. The additional traffic allowed under this final rule is expected to be extremely minimal. The restrictions retained in the rule ensure that access will remain compatible with the purposes for which the refuge was established.

Issue: Fragile ecosystems and wildlife should not be compromised for the convenience of individuals who moved to North Carolina knowing that they did not qualify for access.

Response: Thirteen respondents made this point. The Service agrees that individuals who moved to the Outer Banks after well-defined and widely publicized cut-off dates should not be provided access. With the exception of medical access waiver permits, additional permits will not be issued to residents of the Outer Banks who established permanent residency after the congressionally mandated cut-off dates.

Issue: The Service should implement the December 1986 GAO report which recommends that permit holders who are granted vehicular access be required

to provide sufficient evidence of eligibility or have their permits revoked.

Response: Three respondents expressed this viewpoint. The timing of the GAO report and the subsequent publication of proposed regulations was such that the two formerly independent actions have now been combined. The publication of this final rule is the first step towards conducting a more effective and efficient access permit program. Shortly after the finalization date of this rule, the Service, through the refuge manager, Back Bay NWR, will implement the recommendations of the GAO report. At that time the Service will require those permittees who lack adequate documentation of their access eligibility to provide this information and will ensure that permits are issued only to those who legally qualify for them.

Issue: There should be year-round, 24-hour access through the refuge for permittees.

Response: Three respondents expressed this opinion, while four stated the opposite viewpoint (opposed even a seasonal relaxation of the midnight cut-off time). Since the early 1970's the hours of access have been relaxed several times. In practice, the refuge manager regularly makes exceptions to the 12 midnight cut-off for permittees who work late, attend meetings, etc. A limited amount of travel occurs after midnight and a significant increase is not expected as a result of this change.

The revised rule would relieve the access permittees of the burden of receiving advance approval from the refuge manager for those occasional situations when late night travel is required. No additional trips through the refuge would occur as a result of this rule change. Nesting sea turtles and other wildlife would continue to be protected during the critical summer periods when the restriction on travel from midnight to 5 a.m. would be in effect. Furthermore, one respondent felt that the regulation would be unenforceable without increased regulatory expense and that the increased cost would be diverted from wildlife-related projects. In early 1987, the refuge staffing pattern was reorganized to place appropriate emphasis on wildlife, interpretation, education and law enforcement activities. Within this current staffing arrangement, adequate patrols will be made to guarantee compliance with all refuge special regulations. In addition, the installation of the computer-operated gate in 1985 provides the refuge with data on beach access 24 hours per day. Finally, special "Resource Problem" funding is received

at the refuge level to properly administer the motor vehicle access program without detriment to wildlife related projects.

Issue: The medical access waiver provision is too vague. The Service should provide clear guidelines regarding the necessary documentation required to establish eligibility. Second or third medical opinions should be required. Part-time residents should not qualify for medical access over permanent residents who missed the cut-off dates. Emergency medical access is already allowed, thus there is no necessity to grant additional access permits for medical convenience.

Response: The Service began issuing "medical access waivers" in the early 1980's out of a desire to administer the access program in a humanitarian manner. The primary criterion for a medical access waiver was: "that life-threatening situations may result from more arduous travel conditions." To date six such permits have been issued. Of these six, five are not residents of North Carolina. The Service agrees that providing access to other than permanent residents is not in keeping with the stated intent of the access program. Furthermore despite Service efforts to be sensitive to the needs of individuals whose health has deteriorated, the medical access waiver provision gives the appearance that the Service is providing access to non-residents to the exclusion of residents of North Carolina. This very fact was pointed out by two permanent residents in their written comments on the proposed rule. It was also an area of significant concern in the GAO report. With the explosion in the number of vacation and retirement homes on the North Carolina Outer Banks since the 1970's, and the aging of the population as a whole, the Service agrees that this special access privilege has the potential to become a major program in itself.

In recent years the Service has taken a very liberal approach regarding access for medical purposes for permittees and non-permittees alike. The Service would not deny access off the Outer Banks to any resident of North Carolina who requires emergency medical attention in the Norfolk, Virginia, area. In addition, the Sandbridge, Virginia, rescue squad and the Corova and Corolla, North Carolina, rescue squads have been issued gate cards so that they have unimpeded use of the beach in an emergency. The refuge monitors the radio communications of these rescue squads and strives to assist with access where possible. The Service believes that it is preferable to have trained

emergency medical personnel transport persons involved in a medical emergency off the beach, rather than to have such transport accomplished by individuals without the training or experience to do so.

Therefore, the Service has amended the rulemaking to show that no additional medical access waiver permits will be issued after December 31, 1987. Those who currently hold these permits will continue to be granted access. However, additional medical access waiver permits will be issued only to permanent full-time residents of North Carolina. Medical access waiver permits will be subject to review prior to the issuance or reissuance of an access permit and at three (3) year intervals thereafter. A provision for a second medical opinion has been added to the regulations. This second opinion will be provided for at Service expense by a government designated physician.

Issue: Commercial business employees should provide documentation verifying their employment.

Response: This concern was also raised in the GAO report. The present system allows the employer to notify the refuge manager anytime a change occurs in his employees. In addition to written notification, a W-4 form is sometimes submitted. For commercial fishing crew members who work on a "share of the catch" basis, a statement indicating their "share" of the catch is considered sufficient proof of employment. The Service has been criticized for failing to require substantiating documentation for these employees. The final rule has been modified to address this area of concern. All commercial permit holders will be required to present adequate employment documentation (i.e., signed W-4 forms, W-2 forms, 1099 forms, earnings statements or paycheck stubs, employee income tax withholding submissions to State and Federal tax offices (IRS form W-3 with W-2s attached)), or other acceptable proof of actual employment for all designated employees. No determination of employment legitimacy and therefore access eligibility is possible without this documentation.

It must be recognized that this is an extremely difficult area for the Service since some individuals are very reluctant to divulge employment information; however, it is impossible to verify employment status without it. In those cases where documentation is not presented, employee access will not be granted.

Issue: Permittees should be able to transport in their vehicles whomever they want.

Response: It has always been the intent of the Service to minimize, to the greatest extent possible, the inconvenience to bona fide permittees who utilize the refuge beach as an access route. Passengers in permittee operated vehicles are adequately covered under section (a)(5) of the final rule. The Service, through rulemakings dating back to 1972, has notified the public of its intent to provide access only to those who meet specific criteria. Access is provided to minimize the inconvenience (to certain qualified individuals) of the Service's decision to limit beach travel for the protection of the resource. Access is not granted to permittees for the purpose of transporting those who do not meet the well-defined criteria. Section (a)(5) clarifies the regulations so that there is no misunderstanding of the Service position in this matter.

Issue: The Service's restriction on dike road traffic is inconsistent with policies at other refuges where dike traffic is allowed.

Response: The decision on whether to allow vehicles on Service roadways and dikes is made on a refuge by refuge basis. These decisions are based on a number of criteria including: Condition of the dike (road) surface and substrate, amounts of expected traffic, degree of disturbance to wildlife, wilderness designation, management capability, etc. At Back Bay, the dike roads were not designed for daily vehicular traffic. Furthermore, environmental reviews have consistently evaluated travel on the refuge beach, which is the historic route of travel. The Service considered allowing access on a road behind the dunes in an EIS issued in 1972, but rejected the use of such a road by automobiles.

Issue: Motor vehicle access permittees depend on the Virginia Beach area for services and therefore require more than emergency access for commercial service vehicles.

Response: Three respondents supported the contention that "emergency" commercial service access was inadequate to meet the needs of North Carolina residents who have access permits. Four others felt the proposed action was vague, or would lead to a significant increase in travel.

It is the intent of the Service to provide access for essential commercial service vehicles only when no reasonable alternative access exists, or in emergency situations. Section (h)(1) has been revised to clarify this point. Since access across State lands is necessary, the permittee is responsible for securing concurrence from the

Superintendent of False Cape State Park.

In the May 6, 1977, final rule (42 FR 23151) the Service addressed the issue of commercial service vehicle access during hours other than 8 a.m. to 5 p.m., Monday thru Friday. The refuge manager, upon reasonable notification, will be able to authorize trips outside the prescribed time periods for emergency repair situations should they arise.

Issue: State park concerns have not been taken into account by the Service in formulating the proposed rule.

Response: The Director of the Virginia Department of Conservation and Historic Resources responded on behalf of False Cape State Park (FCSP). The local U.S. Congressman wrote in support of the State's position. In summary, the State was concerned with the following: (1) Additional access permits through the refuge must receive concurrence from FCSP, (2) 24 hour access will greatly increase the workload for FCSP staff, (3) access for commercial vehicles must be approved by the FCSP Superintendent, (4) criteria must be given for medical access waivers, (5) the manager has too much authority under the provisions for suspension or waiver of rules, (6) access to the FCSP for Environmental Education related purposes could be restricted, and (7) FCSP staff need additional trips (beyond two per day).

The Service does not dispute the authority of the State to administer access through the FCSP. In the past, the State has chosen to concur in most access decisions made by the Service. Recently, the State has taken a more active role in administration of its permit system and the management of FCSP. Nothing in this final rulemaking should be construed as binding the FCSP to allow any specific type of access. The State has the authority to permit or deny access through its lands subject to the provisions of State law.

The issues of 24 hour travel, commercial service vehicles, and medical access waivers have been addressed above. It is not appropriate for the Service to address State workforce constraints.

The refuge manager has authority to suspend or waive the access rules under section (k) of this final rulemaking. This authority is similar that which is exercised by all refuge managers as outlined in various sections of 50 CFR Parts 25, 26, and 27. These provisions are expanded upon here, to the unique nature of the motor vehicle access situation. In the past, FCSP activities have been covered in a

Special Use Permit which was issued by the refuge manager. Due to an oversight, no permit was issued in 1986. The refuge manager will issue an annual Special Use Permit to the FCSP to clarify access through the refuge to FCSP. On May 28, 1980, the Service issued a final rule governing motor vehicle access across Back Bay NWR. In this rule, access for FCSP employees was addressed for the first time. A statement under section (g) of the rule stated that FCSP employees would be granted access. In the discussion of major comments on this rulemaking, the Service rejected access for visitors of FCSP employees since, "... No other class of permittees is authorized visitor access ..." It was clearly the intent of the Service that these employees were bound by the regulations imposed on all other permittees. In the September 1983 proposed rule, the Service clarified this issue by stating that FCSP employees would be considered as permanent full-time residents with access privileges identical to those of other permittees. This language is retained in this final rule. Despite the State's concerns on this issue, it would be inconsistent for the Service to allow additional trips for State employees due to the nature of their employment, or their status as Virginia residents. To the maximum extent possible the Service strives to treat all permittees equally. To do otherwise would undermine the credibility of the access program.

Differences Between the Proposed Rule and the Final Rule

As a result of public comments, several changes were incorporated into this final rule. Minor wording changes are incorporated in various sections of the final rule.

Section (a)—All eligibility criteria contained in Pub. L. 96-315, enacted in 1980 and Pub. L. 98-146, enacted in 1983 have been cited in this section. In section (a)(5)—the following statement was added "Permits are not transferable by sale or devise."

Section (f) on Military, fire, or emergency vehicles was modified by adding the following: "Continuous or recurring use of the beach for other than emergency purposes shall require the issuance of a permit from the refuge manager."

Section (g) concerning public utility vehicles was amended to include provisions for the issuance of an access permit.

A minor wording change was made in section (h). Essential commercial service vehicles, to clarify that access for this purpose will only be allowed if no reasonable alternative to the access

exists as determined by the refuge manager.

Section (j)(1) was amended to specify that commercial fishing businesses must have "continuously" operated since 1972. In addition, the following statement was added: "Commercial permits are not transferable by sale or devise. The level of commercial permittee travel across the refuge shall not increase above the average yearly levels maintained in the 1985 to 1987 period." Section (j)(2) was amended to apply the standards outlined for commercial fishermen to other businesses. Language was added to section (j)(4) specifying the types of "appropriate documentation" for commercial business employees.

In section (k)(4)(i) improved property owners were dropped from eligibility for medical access waivers. New sections (k)(4)(ii) and (iii) were added to provide for periodic reviews of medical access waiver permits and Service designated and funded second medical opinions respectively. Section (k)(4)(iv) was added to include a cut-off date beyond which no medical waiver permits would be issued and (k)(4)(v) was included to grandfather current non-resident medical access permit holders.

Section (m)(1) underwent a minor wording change. Section (m)(2) was modified to include a prohibition on towing, transporting, or operating vehicles owned by non-permit holders. This change is consistent with the intent of the regulations issued since 1980 which provided access for qualified permanent residents only and supports the language in section (a)(5) of the rule. Section (m)(5) was modified to include a prohibition against access "for any other purposes not covered in this rule."

Section (o), Beach-oriented uses, was amended to incorporate a change in refuge management activities which occurred during 1987 under the manager's authority to close any portion of the refuge "to protect the resources of the area." This authority is codified in 50 CFR 25.21, 25.31, and 29.3.

Section (r) was modified to specify the months in which pets are permitted. Section (s)(2) was added to require a permit for groups exceeding 10 individuals.

Since these regulations relieve restrictions to allow the issuance of medical access waiver permits, the Service has determined under the provisions of 5 U.S.C. 553(d) that good cause exists to make these regulations effective upon publication in the Federal Register.

Conformance With Statutory and Regulatory Authorities

The National Wildlife Refuge System Administration Act of 1966, as amended, (16 U.S.C. 668dd), authorizes the Secretary of the Interior to permit the use of any area of the Refuge System for any purpose, including access, whenever he determines that such uses are compatible with the major purposes for which the area was established. The Back Bay NWR was established by Executive Order 7907, June 6, 1938, "as a refuge and breeding ground for migratory birds and other wildlife."

The limited use permitted by these regulations is compatible with the major purposes for which the Back Bay NWR was established. This determination is based upon consideration of, among other things, the initial EIS on Motor Vehicle Access (FES 72-33, 1973), the EA completed December 12, 1975, the Service's final EIS on the proposed State-Federal land exchange involving portions of False Cape State Park and Back Bay NWR, and the EA prepared on the proposed rulemaking September 1, 1983.

Paperwork Reduction Act

Information collection is required for obtaining a vehicular access permit. The information is necessary to determine eligibility of applicants, and failure to respond may result in permit denial. This information collection has been approved by the Office of Management and Budget (OMB) under number 1018-0014. This rule will not modify the information collection requirements authorized by OMB.

Environmental Considerations

EAs have been prepared on previous rules and are available for public inspection at: Back Bay NWR, 4005 Sandpiper Road, P.O. Box 6286, Virginia Beach, Virginia 23456; and Virginia Beach Public Library, Operations Building, Room 300, Courthouse Complex, Virginia Beach, Virginia 23456.

Copies of EAs can also be obtained by addressing Regional Director, U.S. Fish and Wildlife Service, One Gateway Center, Suite 700, Newton Corner, Massachusetts 02158.

Economic Effects

This rule involves local, private residents only. Small entities will not be significantly affected. Accordingly, the Department of the Interior has determined that this rule is not a "major rule" within the meaning of Executive Order 12291 (February 19, 1981, 46 FR 13193) and will not have a significant economic effect on a substantial number

of small entities within the meaning of the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*), nor does this rulemaking require preparation of a regulatory analysis. This conclusion is based on the finding that no substantial costs, if any, should result for any small entity.

Drafting Information

The following individuals participated in the writing of these regulations: Anthony Leger, Edward Moses and Patricia Martinkovic.

List of Subjects in 50 CFR Part 28

National Wildlife Refuge System. Recreation. Wildlife refuges. Accordingly, Part 28 of Chapter I of Title 50 of the Code of Federal Regulations is amended as set forth below:

PART 28—[AMENDED]

1. The authority citation for Part 28 is revised to read as follows:

Authority: 5 U.S.C. 301; 16 U.S.C. 460k, 564, 668dd, 715i; Pub. L. 96-315 (94 Stat. 958) and Pub. L. 98-148 (97 Stat. 955).

2. The special regulations governing public access, use and recreation on Back Bay NWR in § 28.34 are revised to read as follows:

§ 28.34 Special regulations concerning public access, use and recreation for individual national wildlife refuges.

Virginia

Back Bay National Wildlife Refuge

Access

(a) *Access qualifications and specifications.* (1) As provided for in Pub. L. 96-315, permanent, full-time residents who can furnish to the refuge manager, Back Bay NWR, adequate proof of continuous and continuing residency, commencing prior to December 31, 1979, on the Outer Banks from the refuge boundary south to and including the village of Corolla, North Carolina, as long as they remain permanent, full-time residents. The south boundary of the area for access consideration is defined as a straight east-west line extending from Currituck Sound to the Atlantic Ocean and passing through a point 1,600 feet due south of the Currituck lighthouse. "Residence" means a place of general abode: "Place of general abode" means a person's principal, actual dwelling place in fact, without regard to intent. A "dwelling" means a residential structure occupied on a year-round basis by the permit applicant and shall not include seasonal or part-time dwelling units such as beach houses, vacation cabins, or structures which are intermittently occupied.

(2) As provided for in Pub. L. 98-148, "Up to 15 additional permits shall be granted to those persons meeting any one of the following conditions:"

(i) A resident as of July 1, 1982, who held a valid Service access permit for improved property owners at any time during the period from July 29, 1976, through December 31, 1979.

(ii) Anyone in continuous residency since 1976, in the area bounded on the north by the refuge boundary, and on the south by a straight line passing through a point in the east-west prolongation of the centerline of Albacore Street, Whaleshead Club Subdivision, Currituck County, North Carolina.

(iii) Any permanent, full time resident as of April 1, 1983, residing in the area outlined in paragraph (a)(2)(ii) of this section and not otherwise eligible, who can substantiate to the Secretary of the Interior that access is essential to their maintaining a livelihood; so long as they maintain full-time continuous employment in the Norfolk, Virginia, area may qualify for access.

(3) The burden of proving that the prospective permittee meets these criteria shall be on the applicant by presentation of adequate documentation to the refuge manager. Permittees may be required to submit additional documentation of their eligibility to the refuge manager in order to maintain access. Permits will be issued only to those who legally qualify for them.

(4) Only one permit will be issued per family. All permits issued will be terminated in the event that alternate access becomes available during the permit period.

(5) Permits are issued for the purpose of providing ingress and egress across the refuge beach to the permittee's residence. Personal access is limited to permittees, their families, relatives, and guests while being transported in the permittee's vehicle. "Personal access" means private, non-commercial use. Permits are not transferable by sale or devise.

(6) All vehicle occupants must provide positive identification upon the request of any refuge official.

(b) *Routes of travel.* Access to, and travel along, the refuge beach by motorized vehicles may be allowed between the dune crossing at the key card operated gate near the refuge headquarters, and the south boundary of the refuge only after a permit has been issued or authorization provided by the refuge manager. Travel along the refuge beach by motorized vehicle shall be below the high tide line, within the intertidal zone, to the maximum extent practicable. This may require permittees

to adjust their travel times to avoid high tides which would require the use of the emergency storm access/evacuation route over the east dike.

(c) *Number of trips allowed.*

Permittees and members of their immediate families residing with them are limited to a total of two round trips per day per household.

(d) *Hours of travel.* Travel along the designated route is permitted 24 hours per day from October 1 through April 30. Travel is restricted to the hours of 5:00 a.m. to 12:00 midnight from May 1 through September 30.

(e) *Medical emergencies.* Private vehicles used in a medical emergency will be granted access. A "medical emergency" means any condition that threatens human life or limb unless medical treatment is immediately obtained.

The vehicle operator is required to provide the refuge manager with a doctor's statement confirming the emergency within 36 hours after the access has occurred.

(f) *Military, fire or emergency vehicles.* Military, fire, emergency or law enforcement vehicles used for emergency purposes may be granted access. Vehicles used by an employee/agent of the Federal, State or local government, in the course of official duty other than for emergency purposes, may be granted access upon advance request to the refuge manager. Continuous or recurring use of the refuge beach for other than emergency purposes shall require the issuance of a permit from the refuge manager.

(g) *Public utility vehicles.* Public utility vehicles used on official business will be granted access. A permit specifying the times and types of access will be issued by the refuge manager. A "public utility vehicle" means any vehicle owned or operated by a public utility company enfranchised to supply Outer Banks residents with electricity or telephone service.

(h) *Essential commercial service vehicles.* (1) Essential commercial service vehicles on business calls during the hours of 8 a.m.-5 p.m. Monday through Friday will be granted access, only upon prior approval of the refuge manager when responding to a request from a permittee. Such requests may be verbal or in writing. Access by essential commercial service vehicles will be granted only after all other reasonable alternatives to access through the refuge have been exhausted as determined by the refuge manager.

(2) "Commercial service vehicle" means any vehicle owned or operated by or on behalf of an individual.

partnership, or corporation that is properly licensed to engage entirely in the business of furnishing emergency repair services, including but not limited to plumbing, electrical, and repairs to household appliances.

(3) Emergency situations. The refuge manager, upon reasonable notification, will be able to authorize essential service/emergency repair access, outside the prescribed time periods, for emergency situations should they arise.

(i) *False Cape State Park employees.* False Cape State Park and Virginia Game Commission employees who are residents in the park will be considered as permanent, full-time residents as defined in § 26.34(a) with access privileges identical to those of other permittees with beach access privileges.

(j) *Commercial fishermen, businesses and their employees.* (1) Commercial fishermen who have verified that their fishing operations on the Outer Banks of Virginia Beach, Virginia, or Currituck County, North Carolina, have been dependent since 1972 on ingress and egress to or across the refuge are granted permits for access. Travel through the refuge by commercial fishermen from Currituck County, North Carolina, will be permitted only when directly associated with commercial fishing operations. Drivers and passengers on trips through the refuge are limited to commercial fishing crew members. A "commercial fisherman" means one who harvests finfish by gill net or haul seine in the Atlantic Ocean, and who has owned and operated a commercial fishing business continuously since 1972. Commercial permits are not transferable by sale or devise. The level of commercial permittee travel across the refuge shall not increase above the average yearly levels maintained in the 1985-1987 period.

(2) Other businesses who have verified that their business operations on the Outer Banks of Currituck County, North Carolina, have been dependent since 1972 on ingress and egress to or across the refuge will be granted permits for access in accordance with the limitations outlined in paragraph (j)(1) of this section.

(3) Each commercial fisherman or other business may be granted a maximum of five designated employees to travel the refuge beach for commercial fishing or other business-related purposes only. Commercial fishing employees may carry only other commercial fishing employees as passengers. Other business employees may carry only other employees of that business. The hauling of trailers associated with the conduct of

commercial fishing or other business activities is authorized.

(4) Employees of commercial fishermen and/or other businesses who apply for access permits shall have the burden of proving, by the presentation of appropriate documentation to the refuge manager, that they are an "employee" for purposes of this section of the regulations. Appropriate documentation is defined as the submission of standardized and verifiable employment forms including: Signed W-2 and W-4 forms, IRS form #1099, official earnings statements for specified periods, employee income tax withholding submissions to State and Federal tax offices (e.g., IRS form W-3 with W-2s attached), State unemployment tax information or other proof of actual employment. Documentation for each employee must be submitted in advance of access being granted, or, for new employees, within 30 days of their starting date. Failure to provide verification of employment for new employees within 30 days will result in termination of access privileges.

(k) *Suspension or waiver of rules.* (1) In an emergency, the refuge manager may suspend any or all of the foregoing restrictions on vehicular travel and announce each suspension by whatever means are available. In the event of adverse weather conditions, the refuge manager may close all or any portion of the refuge to vehicular traffic for such periods as deemed advisable in the interest of public safety.

(2) The refuge manager may make exceptions to access restrictions, if they are compatible with refuge purposes, for qualified permittees who have demonstrated to the refuge manager a need for additional access relating to health or livelihood.

(3) The refuge manager may grant one-time use authorization for vehicular access through the refuge to individuals, not otherwise qualified above, who have demonstrated to the refuge manager that there is no feasible alternative to the access requested. Authorization for access under this provision will not be based on convenience to the applicant.

(4) Medical access waiver permits may be issued under the following conditions:

(i) The Regional Director may grant access to non-eligible permanent residents who can show proof that their physical health is such that life-threatening situations may result from more arduous travel conditions. The submission of substantiating medical records is required to be considered for a medical access waiver.

(ii) All medical access waiver permittees will be required to prove that their medical condition is or continues to be such that a life-threatening situation would result from more arduous travel conditions. Such proof shall be required prior to the issuance of an access permit, and at 3-year intervals thereafter.

(iii) A second medical opinion will be required by the Regional Director prior to the issuance or re-issuance of any such permit. This second opinion will be provided for at Service expense, by a government designated physician.

(iv) No additional medical access waiver permits will be issued after December 31, 1987.

(v) Previous holders of medical access waiver permits will retain access subject to paragraph (k)(4) (ii) and (iii) of this section.

(l) *Violation of rules.* Violators of these special regulations pertaining to Back Bay NWR are subject to legal action as prescribed by 50 CFR 25.43 and Part 28, including suspension or revocation of all permits issued to the violator or responsible permittee. The refuge manager may deny access permits to applicants who, during the 2 years immediately preceding the date of application, have formally been charged and successfully prosecuted for three or more violations of these or other regulations in effect at Back Bay NWR. Individuals whose vehicle access privileges are suspended, revoked, or denied may, within 30 days, file a written appeal of the action to the Assistant Regional Director-Refuges and Wildlife, One Gateway Center, Suite 700, Newton Corner, Massachusetts 02158, in accordance with 50 CFR 25.45(c).

(m) *Other access rules.* (1) No permit will remain in effect beyond December 31 of the year in which it was issued. Permits may be renewed upon the submission of appropriate updated information relating to the permit, and a signed statement that the conditions under which the previous permit was issued have not changed. In the event of any changes of conditions under which the permit is granted, the permittee shall notify the refuge manager in writing within 30 days. Failure to report changes may result in suspension/revocation of the permit.

(2) Vehicles shall be operated on the refuge beach only by the permittee or other authorized drivers. Permit holders shall not tow, transport or operate vehicles owned by non-permit holders through the refuge. Non-commercial permit holders may tow utility and boat trailers when being used for their

personal use only. Any towed vehicle shall have advance approval from the refuge manager prior to being brought through the refuge. This access privilege is not to be used for any commercial purpose.

(3) The refuge manager may prescribe restrictions as to the types of vehicles to be permitted to ensure public safety and adherence to all applicable rules and regulations.

(4) A magnetic card will be issued to each authorized driver only for his or her operation of the computer controlled gate. No more than two cards will be issued per family. Only one vehicle will be permitted to pass for each gate opening. Unauthorized use of the magnetic card may result in suspension of the permit. A fee will be charged to replace lost or misplaced cards. Malfunctioning cards will be replaced at no charge.

(5) Access is granted for the purpose of travel to and from the permittee's residence and/or place of business. Access is not authorized for the purpose of transporting individuals for hire, or for the transport of prospective real estate clients to or from the Outer Banks of North Carolina, or for any other purpose not covered in this rule.

General Rules

(n) *Entry on foot, bicycle or motor vehicle.* Entry on foot, bicycle, or by motor vehicle on designated routes is permitted one-half hour before sunrise to one-half hour after sunset for the purposes of nature observation and study, photography, hiking, surf fishing, and bicycling.

(o) *Beach-oriented uses.* Designated areas of the refuge beach are open to wildlife/wildlands-oriented recreation only as outlined in paragraph (n) of this section. Entry to the beach is via designated access points only.

(p) *Parking.* Limited parking at the refuge office/visitor contact station is permitted only in designated spaces. Parking is available on a first-come, first-serve basis for persons engaged in wildlife/wildlands-oriented recreation only as outlined in paragraph (n) of this section.

(q) *Fires.* All fires are prohibited.

(r) *Pets.* Dogs and other pets, on a hand-held leash not exceeding 10 feet in length, are permitted from October 1 through March 31.

(s) *Other general rules.* (1) Pedestrians and vehicular traffic in the sand dunes are prohibited.

(2) Use by all groups exceeding 10 individuals will require a Special use Permit, issued by the refuge manager.

(3) Registered motor vehicles and motorized bicycles (mopeds) are

permitted on the paved refuge access road and parking lot at refuge headquarters. All other motorized vehicular use is prohibited, except as specifically authorized pursuant to this rule.

(4) The information collection requirement contained in this rule has been approved by the Office of Management and Budget under 44 U.S.C. 3501, *et seq.*, and has been assigned the number 1018-0014. The information being collected is used to determine eligibility for issuing a vehicular access permit and a response is required to obtain a benefit.

Date: August 28, 1987.

Susan Recco,

Acting Assistant Secretary for Fish and Wildlife and Parks.

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